This report contains sample performance data for SiT2018B-16.384MHz.

Conditions:

- Frequency 16.384 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	0.54	0.55	0.54	0.54	0.53
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.32	1.31	1.28	1.28	1.26
Random Phase jitter (900kHz – 16.384MHz)*	ps, rms	0.84	0.85	0.84	0.83	0.83
Random Phase jitter (12kHz – 16.384MHz)*	ps, rms	1.47	1.47	1.43	1.43	1.41
Period jitter	ps, rms	1.84	1.52	1.47	1.50	1.44
Period jitter (10,000 cycles)	ps, pk-pk	13.7	12.1	11.9	11.4	11.5
Duty cycle	%	50.0	50.0	50.1	50.2	50.3
Rise time (20% - 80%)	ns	1.24	1.00	0.91	0.98	0.91
Fall time (80% - 20%)	ns	1.26	0.98	0.90	0.97	0.92
Amplitude	V	1.79	2.48	2.78	3.02	3.30
Current consumption (no load, output enabled)	mA	3.56	3.66	3.71	3.73	3.78
Current consumption (no load, output disabled)	mA	3.44	3.51	3.56	3.60	3.67

*Calculated by extending the noise floor of the phase noise from 5 MHz to 16.384 MHz

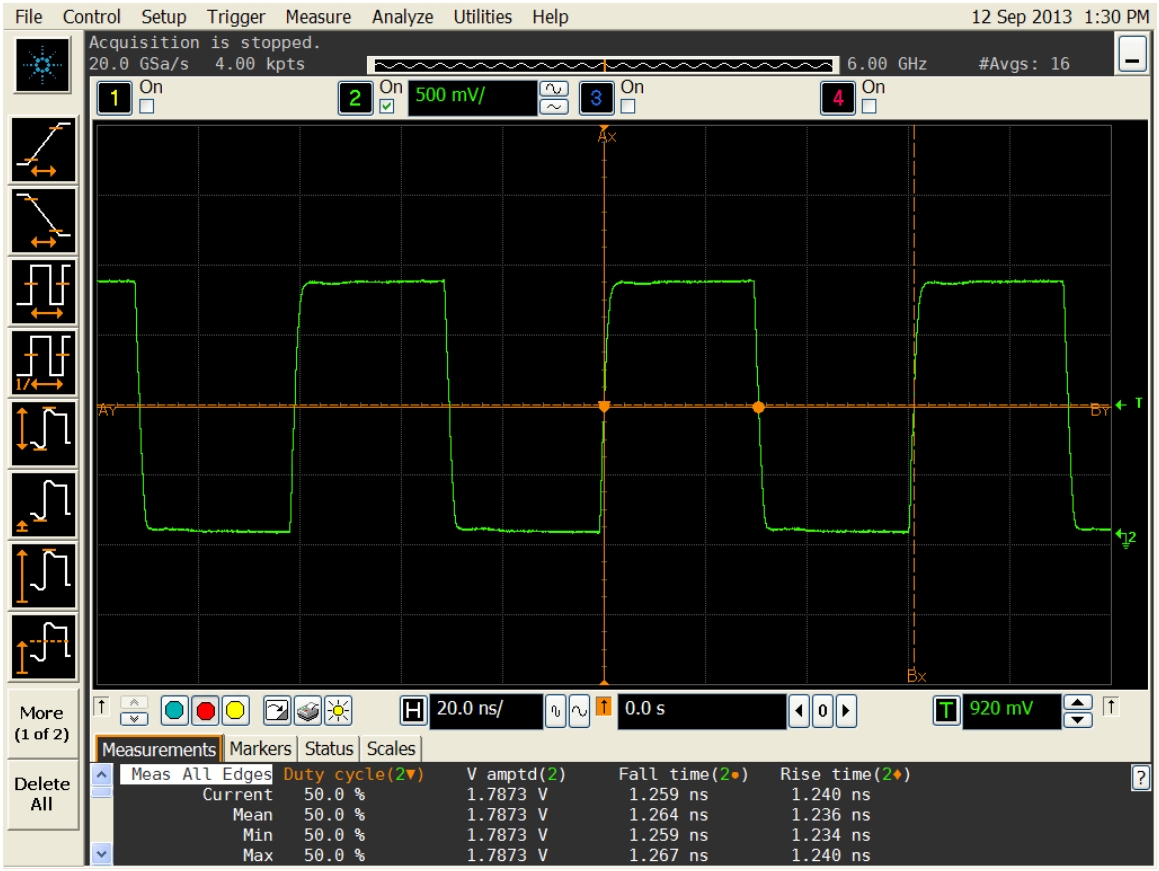

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

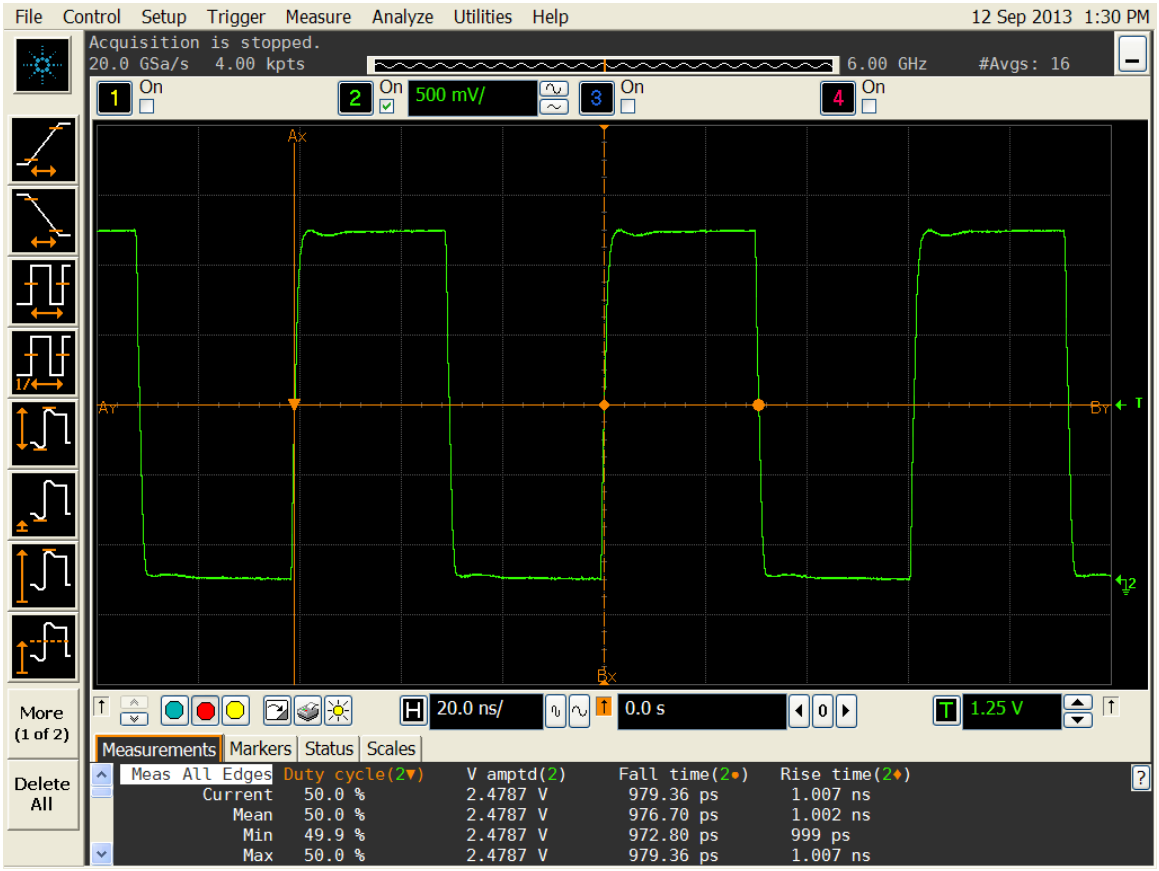

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

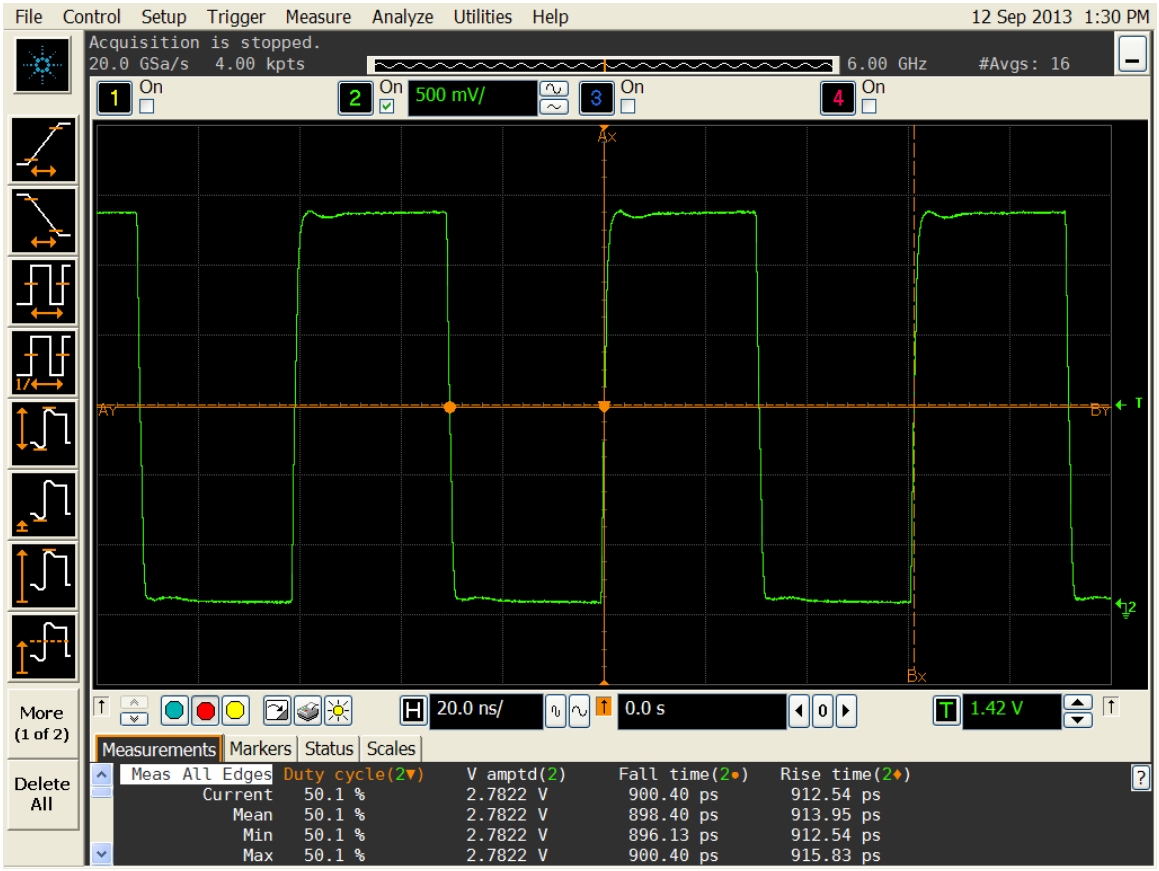

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

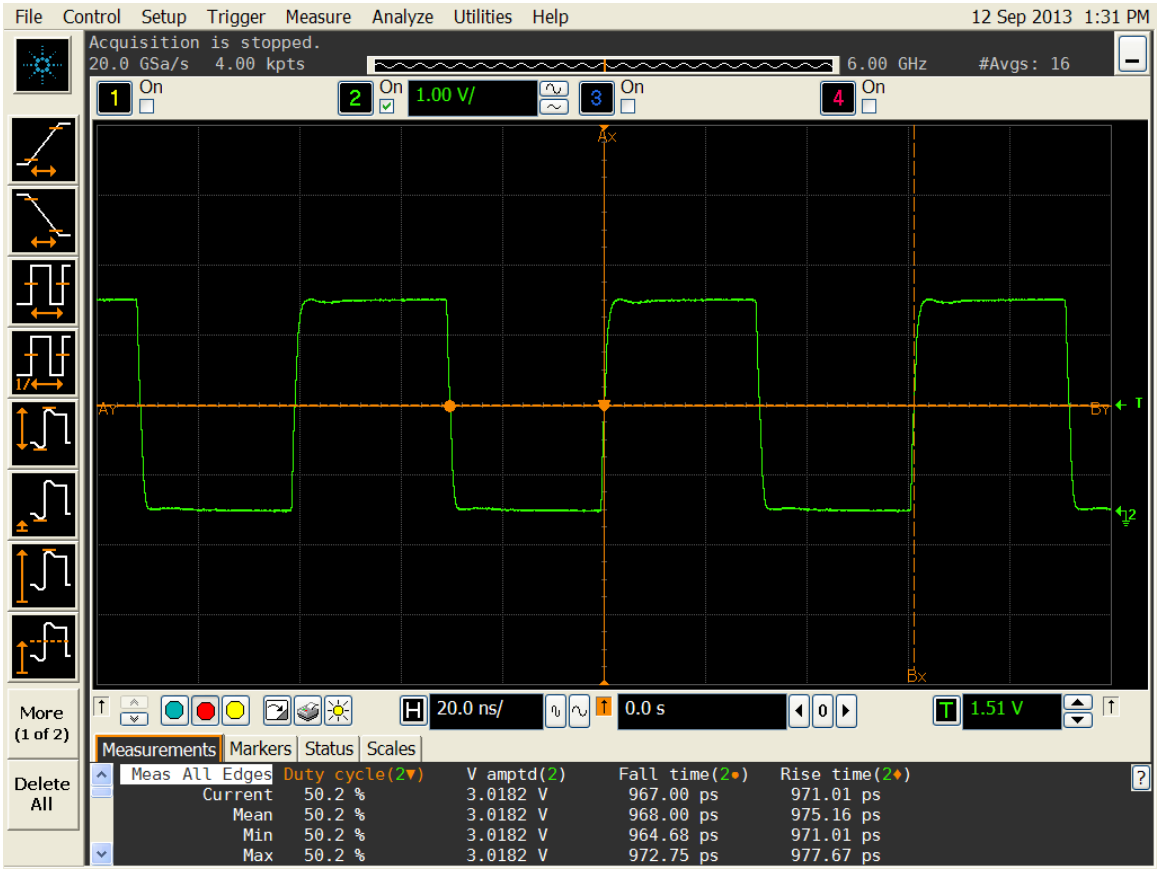

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

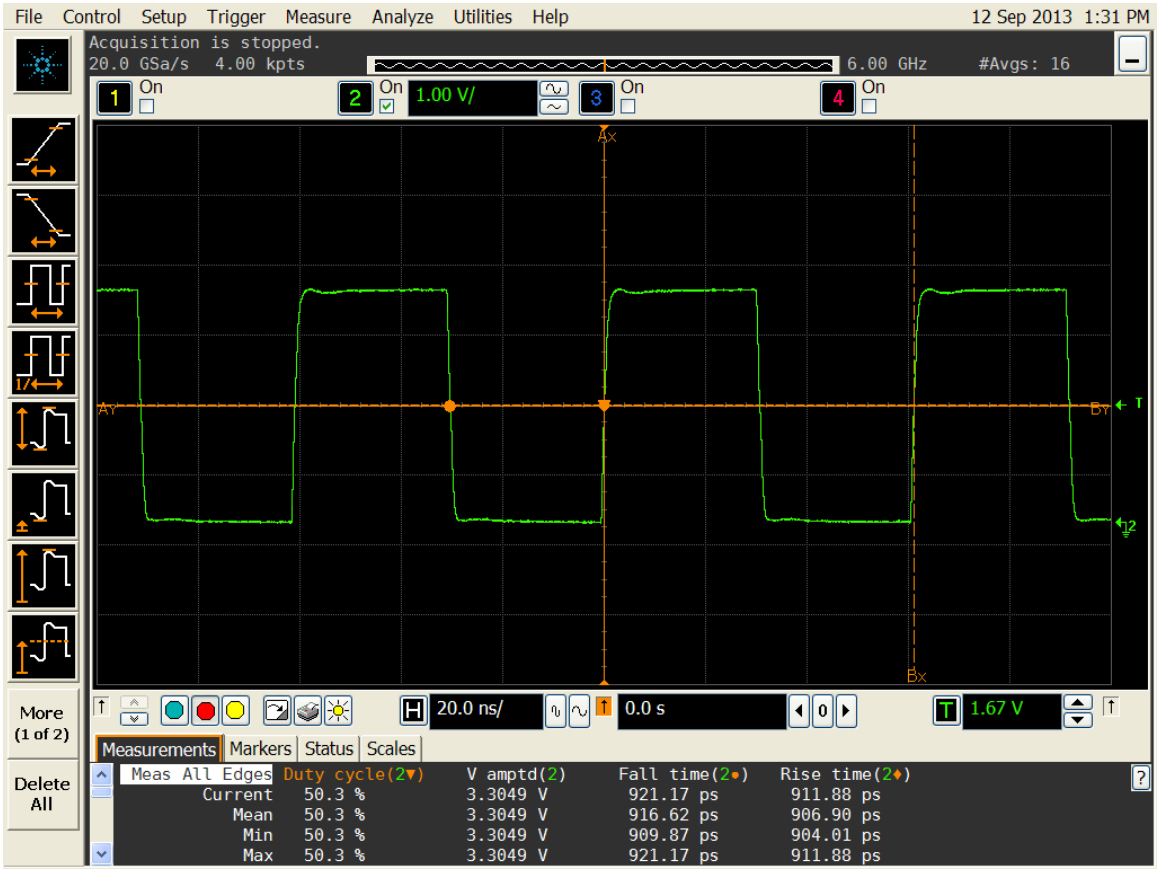

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

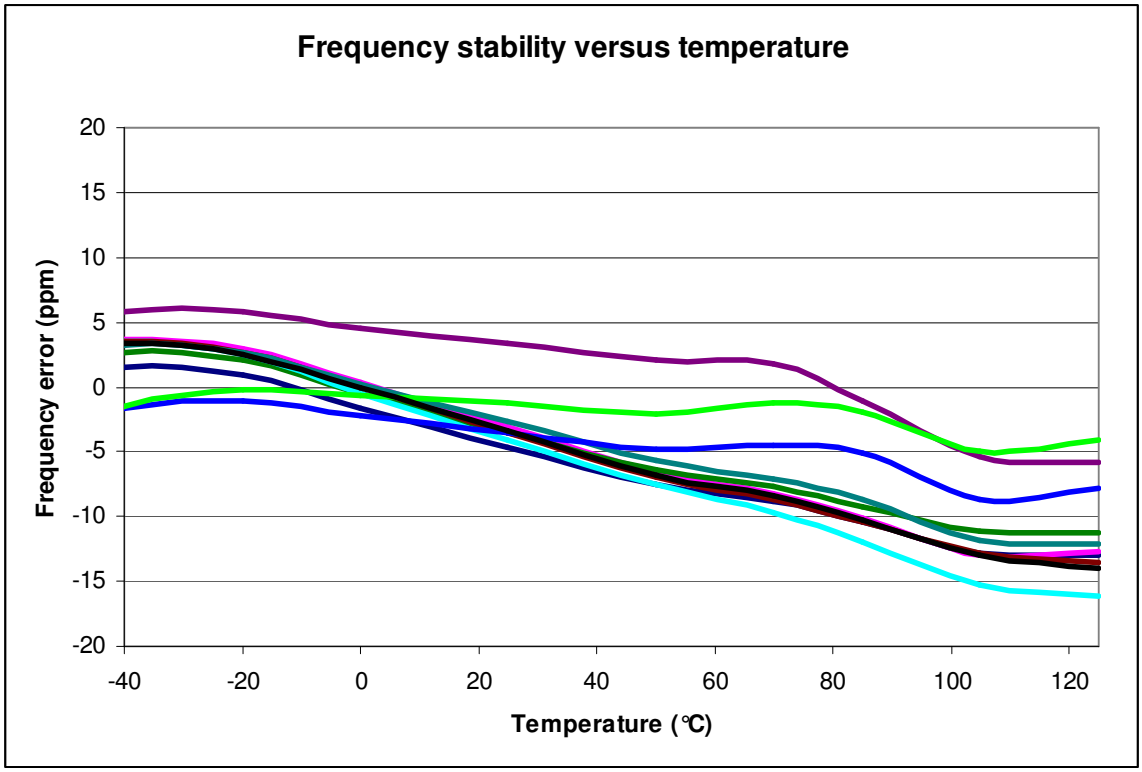

Figure 6. Frequency stability* versus temperature

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