This report contains sample performance data for SiT2018B-18.432MHz.

Conditions:

- Frequency 18.432 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	0.51	0.53	0.52	0.52	0.53
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.33	1.31	1.29	1.28	1.28
Random Phase jitter (900kHz – 18.432MHz)*	ps, rms	0.84	0.87	0.85	0.85	0.85
Random Phase jitter (12kHz – 18.432MHz)*	ps, rms	1.49	1.48	1.45	1.44	1.45
Period jitter	ps, rms	2.51	1.89	1.79	1.79	1.73
Period jitter (10,000 cycles)	ps, pk-pk	17.9	13.7	13.5	13.0	12.6
Duty cycle	%	50.0	49.9	50.1	50.2	50.3
Rise time (20% - 80%)	ns	1.23	1.00	0.91	0.98	0.91
Fall time (80% - 20%)	ns	1.26	0.97	0.90	0.97	0.92
Amplitude	V	1.78	2.48	2.77	3.02	3.30
Current consumption (no load, output enabled)	mA	3.56	3.67	3.72	3.75	3.80
Current consumption (no load, output disabled)	mA	3.41	3.49	3.54	3.58	3.66

*Calculated by extending the noise floor of the phase noise from 5 MHz to 18.432 MHz

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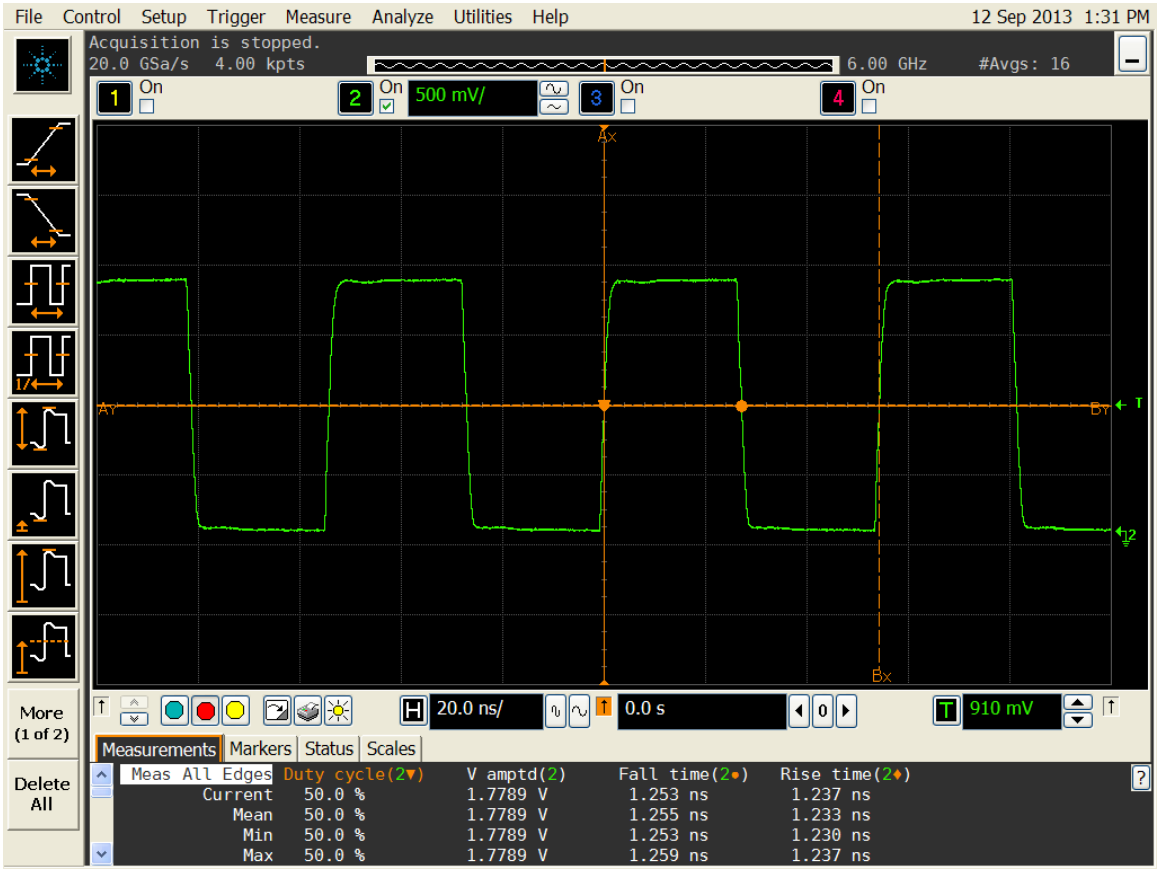

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

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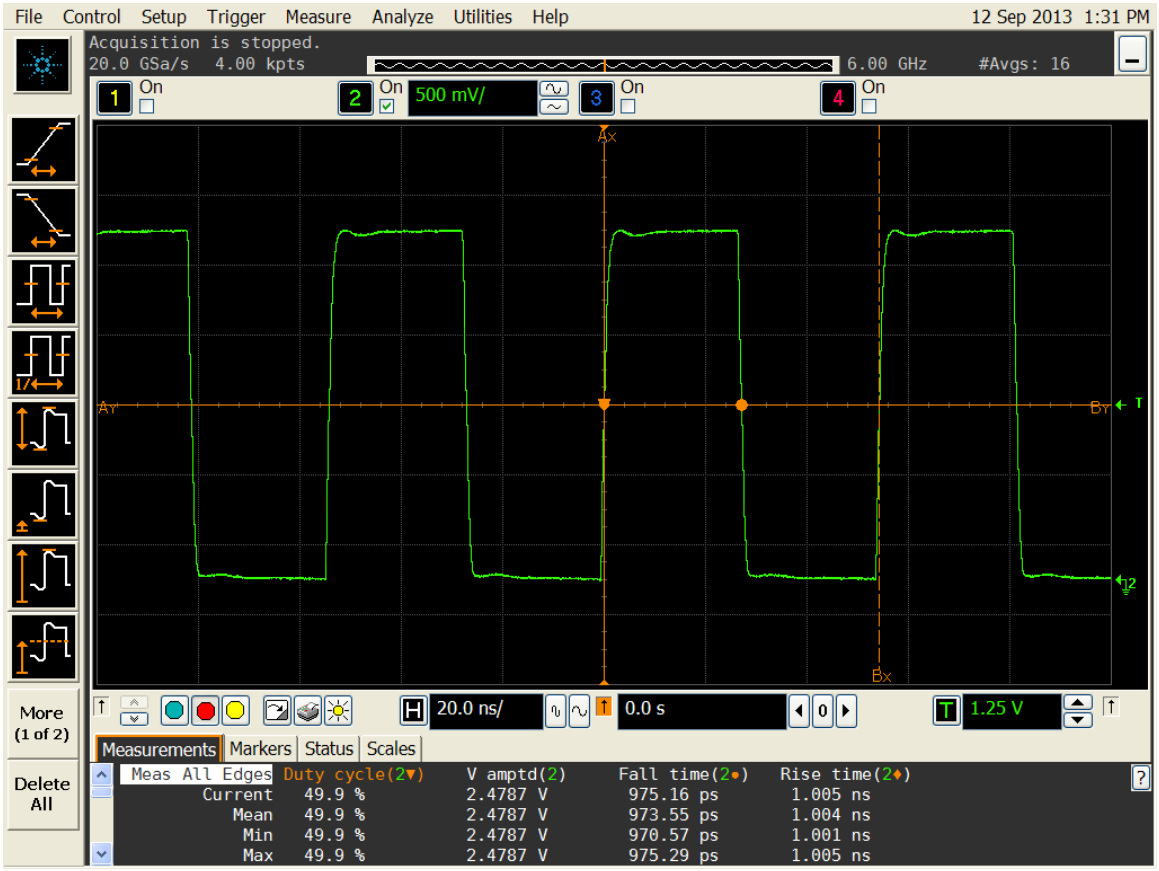

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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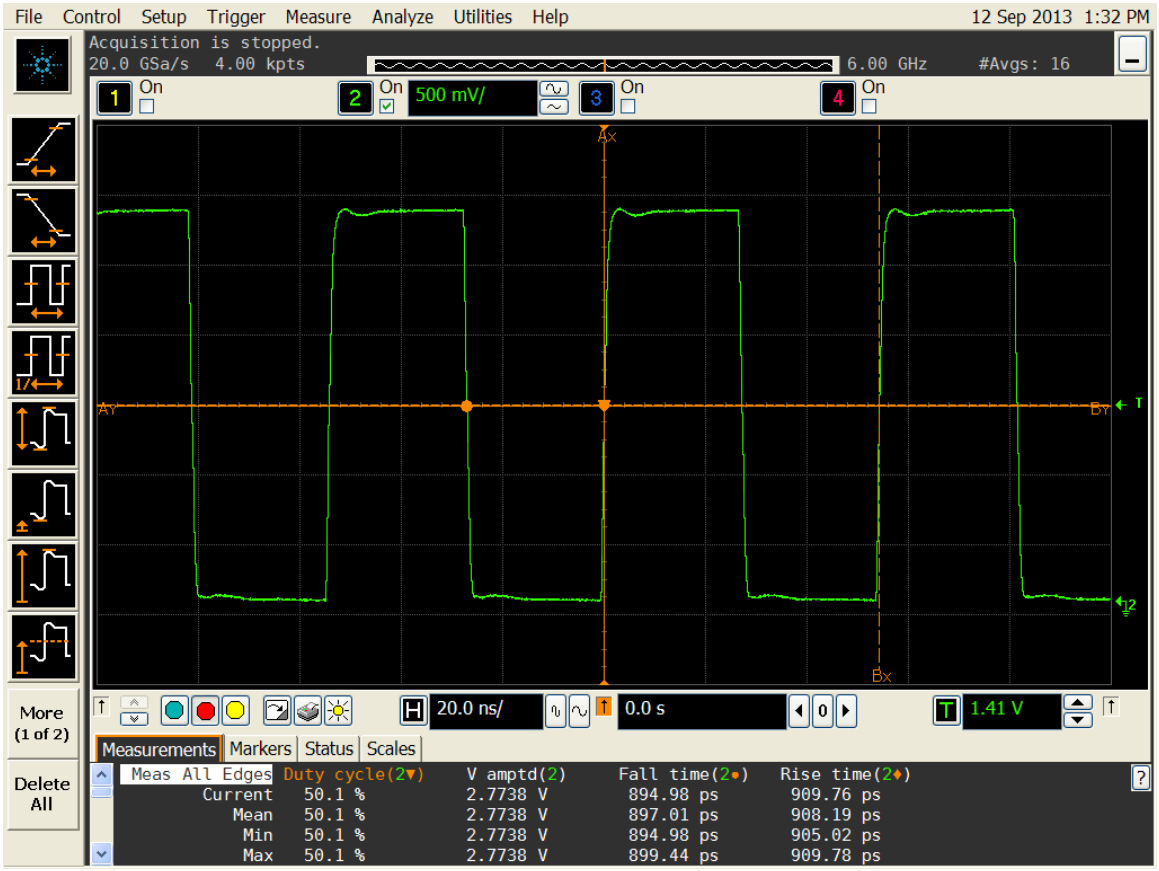

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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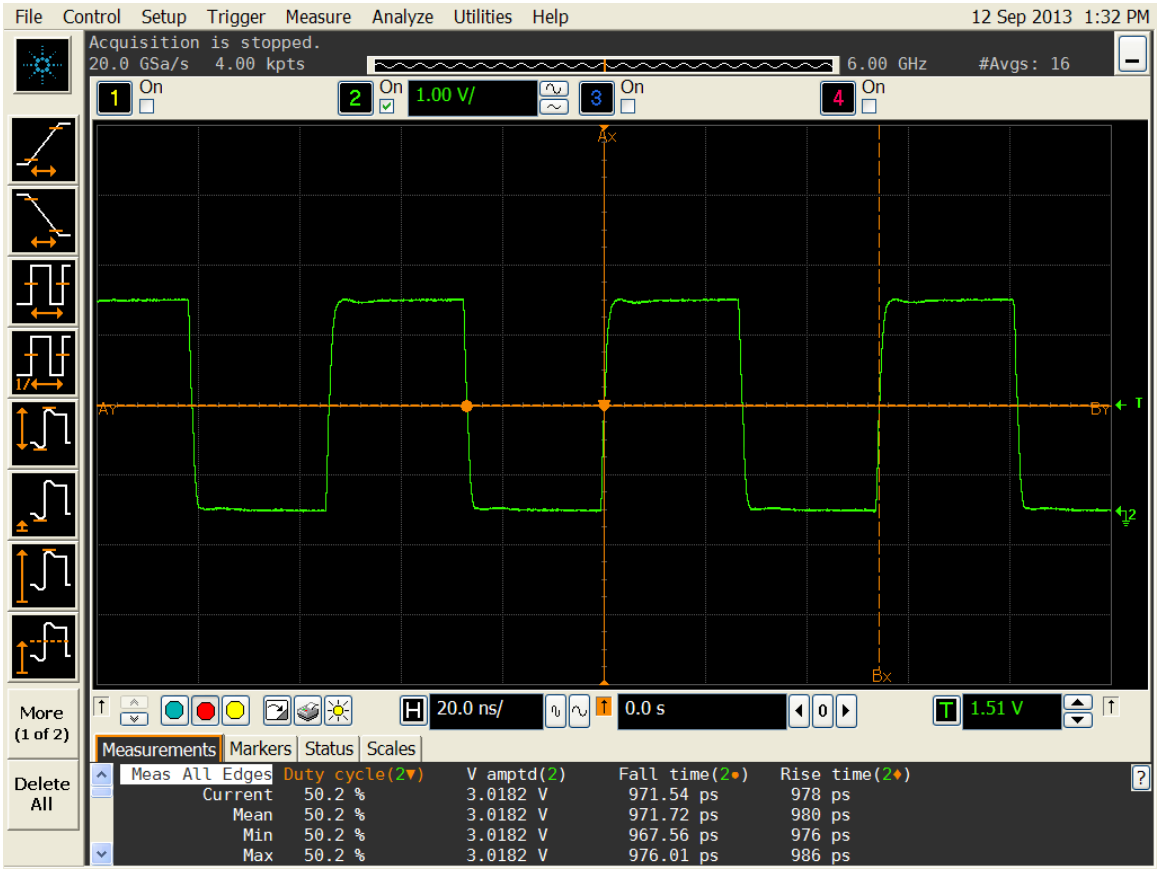

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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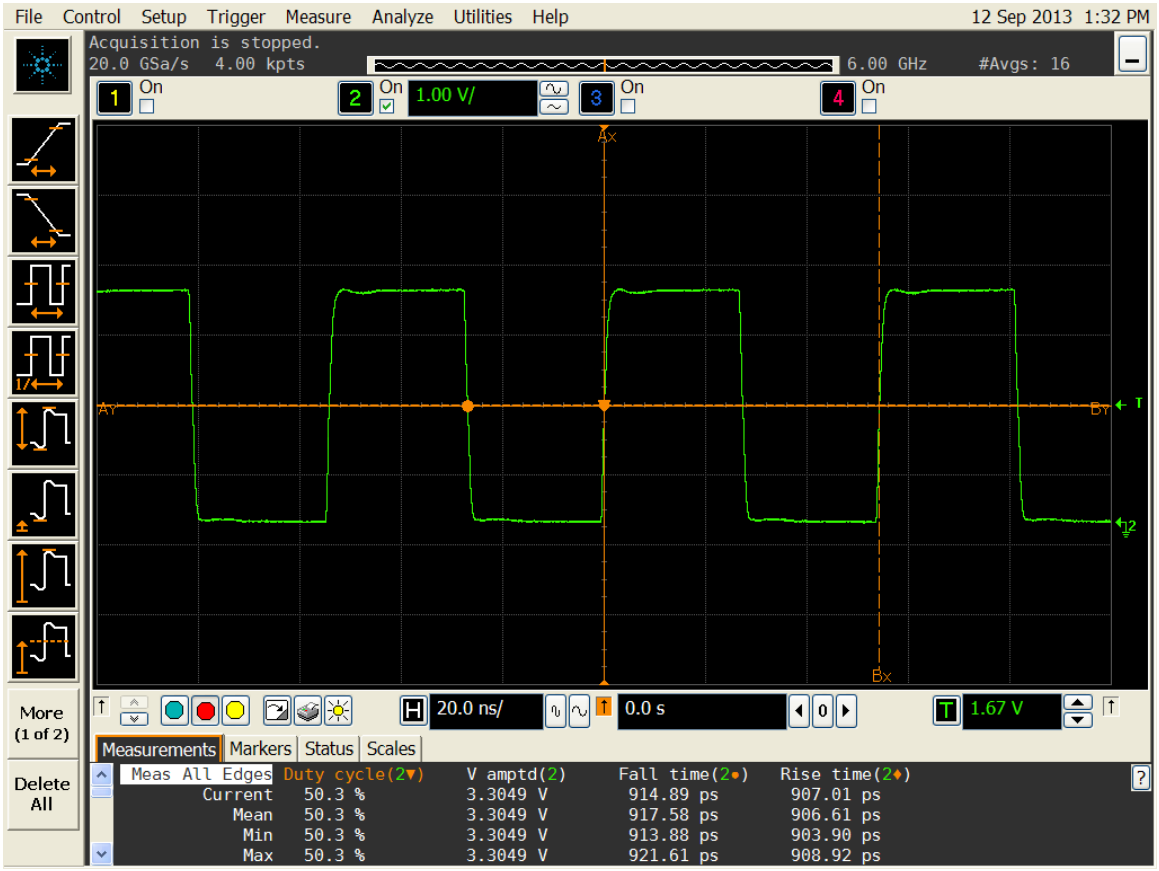

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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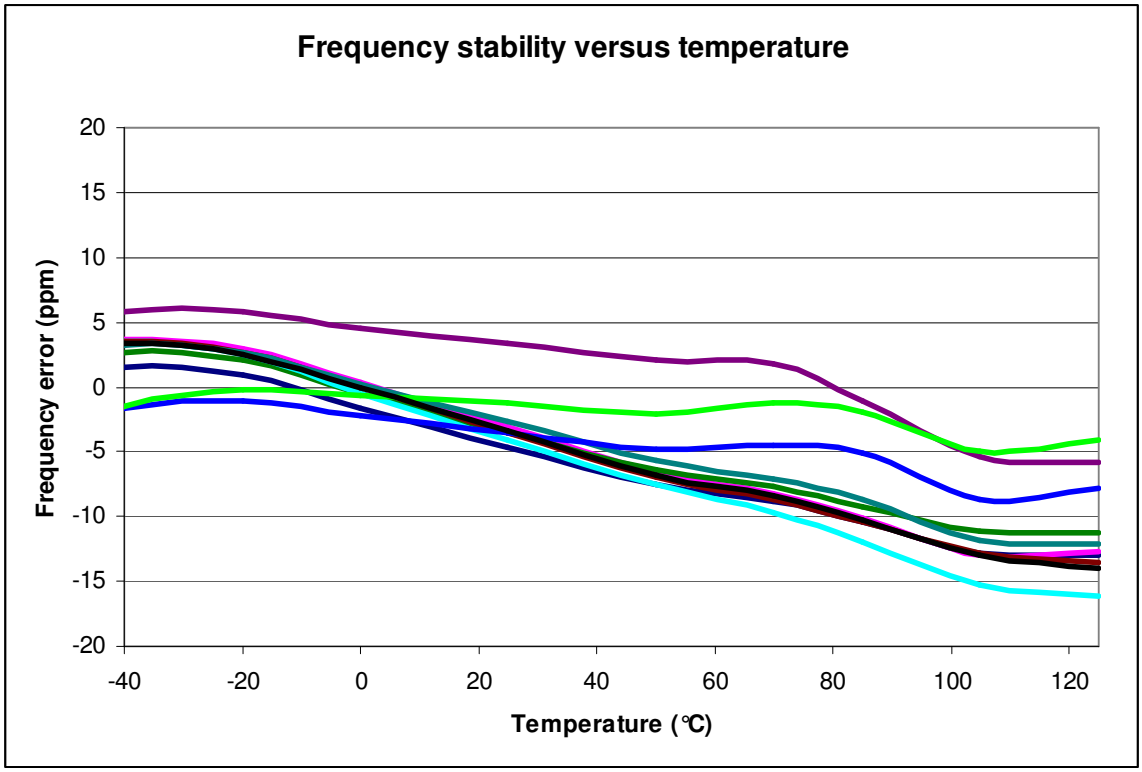

Figure 6. Frequency stability* versus temperature

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

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