This report contains sample performance data for SiT8918B-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	0.51	0.52	0.53	0.53	0.53
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.33	1.29	1.29	1.28	1.28
Random Phase jitter (900kHz – 20MHz)*	ps, rms	0.79	0.81	0.82	0.82	0.82
Random Phase jitter (12kHz – 20MHz)*	ps, rms	1.46	1.43	1.43	1.43	1.42
Period jitter	ps, rms	2.11	1.72	1.65	1.64	1.65
Period jitter (10,000 cycles)	ps, pk-pk	15.6	12.9	12.4	12.4	11.9
Duty cycle	%	50.0	49.9	50.1	50.3	50.5
Rise time (20% - 80%)	ns	1.23	1.00	0.91	0.96	0.91
Fall time (80% - 20%)	ns	1.26	0.98	0.90	0.96	0.92
Amplitude	V	1.78	2.48	2.77	2.98	3.30
Current consumption (no load, output enabled)	mA	3.65	3.79	3.85	3.89	3.96
Current consumption (no load, output disabled)	mA	3.41	3.48	3.53	3.58	3.65

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

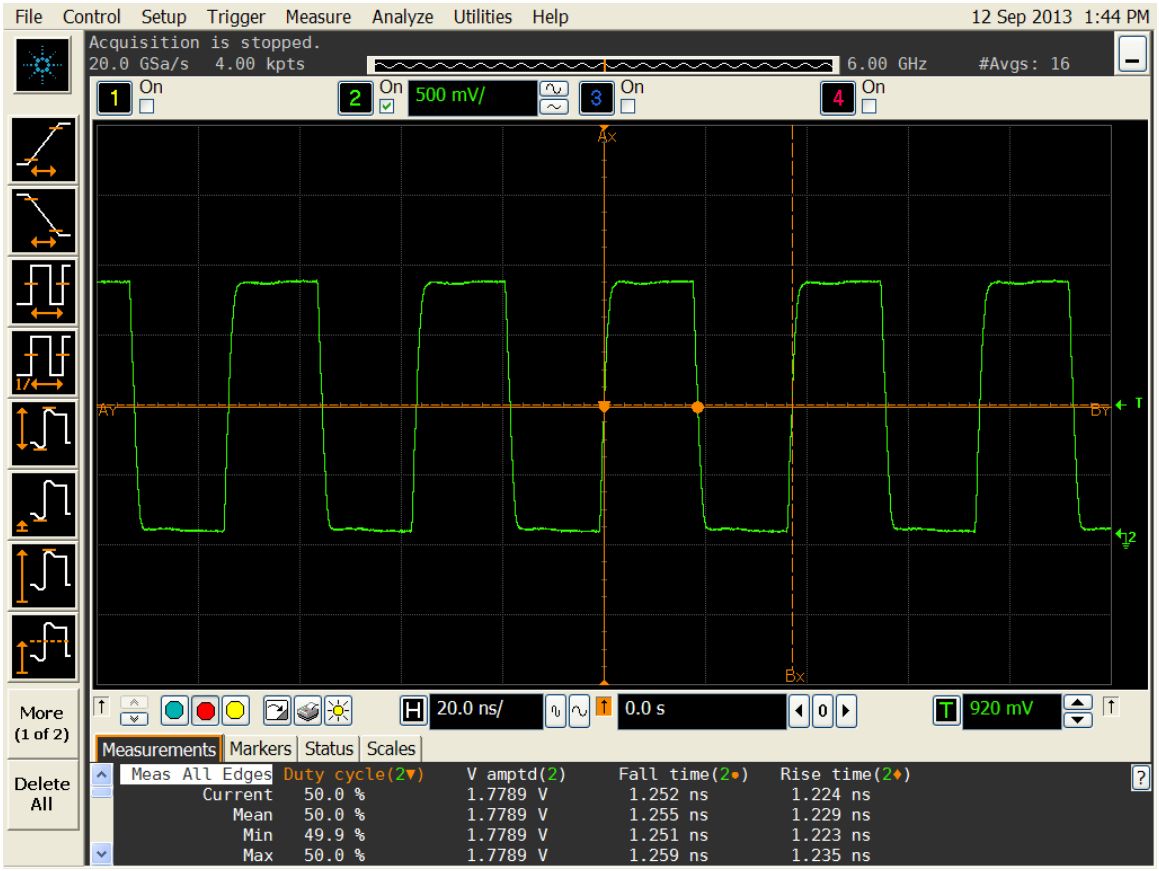

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

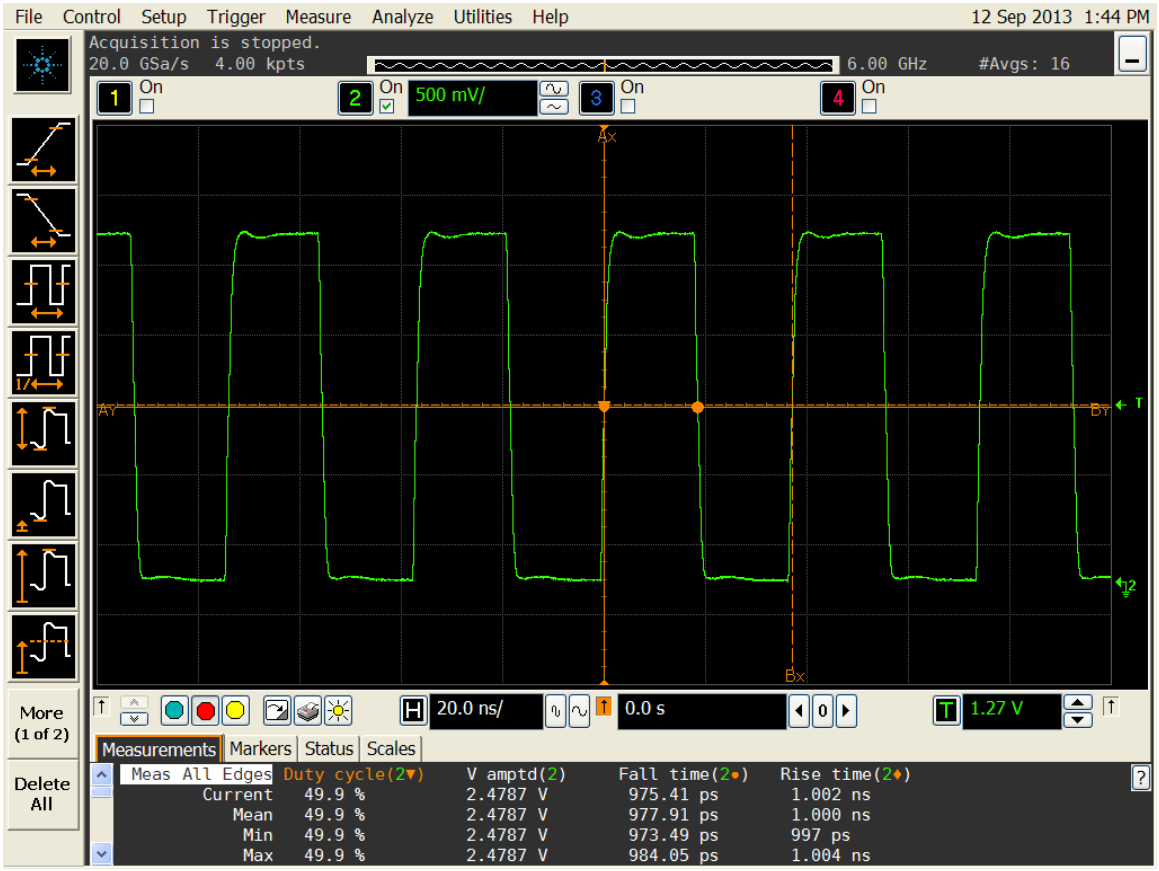

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

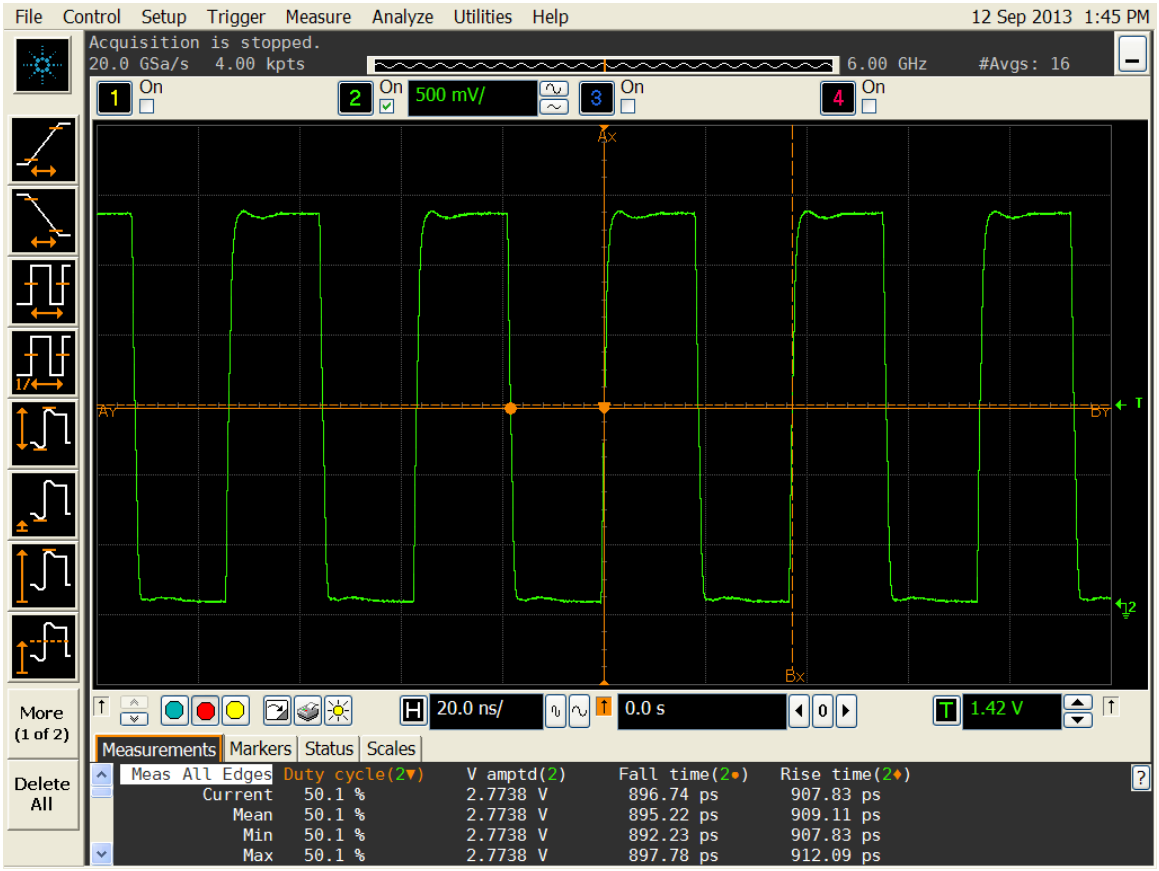

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

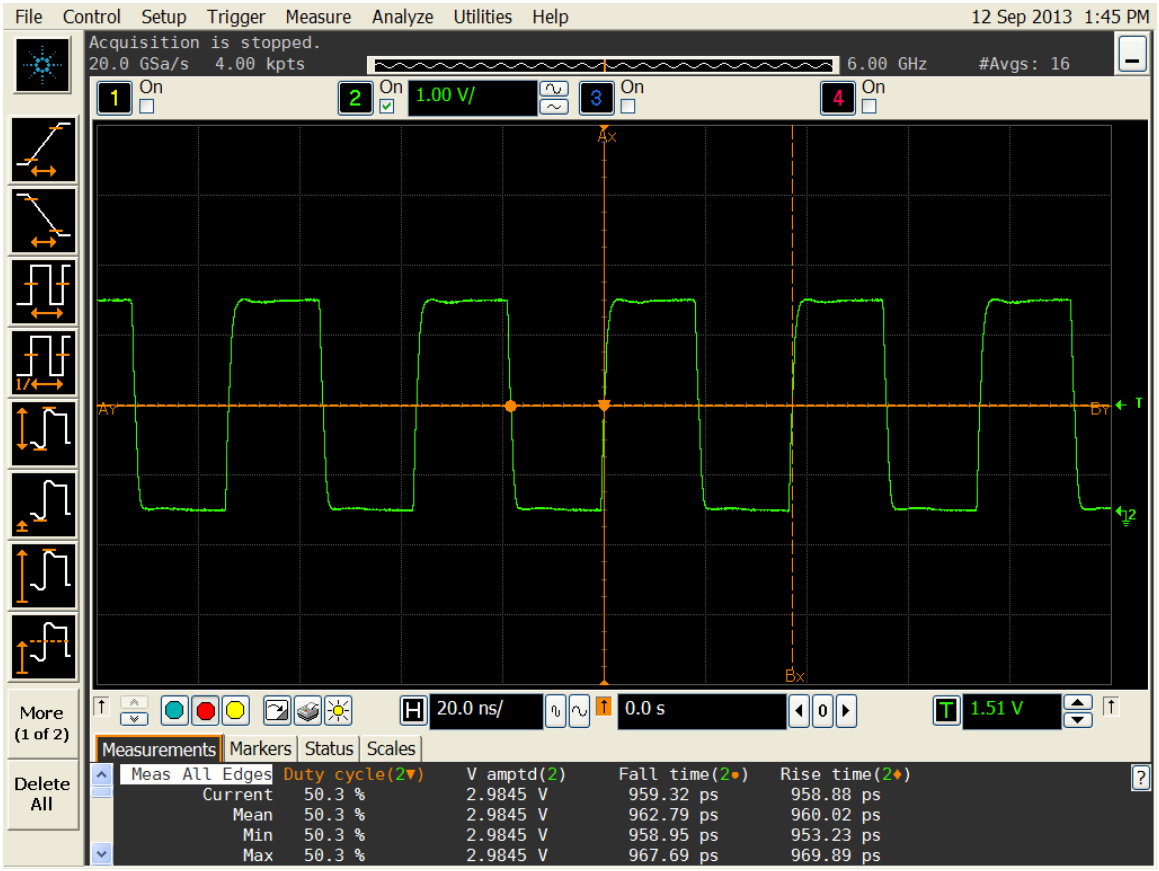

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

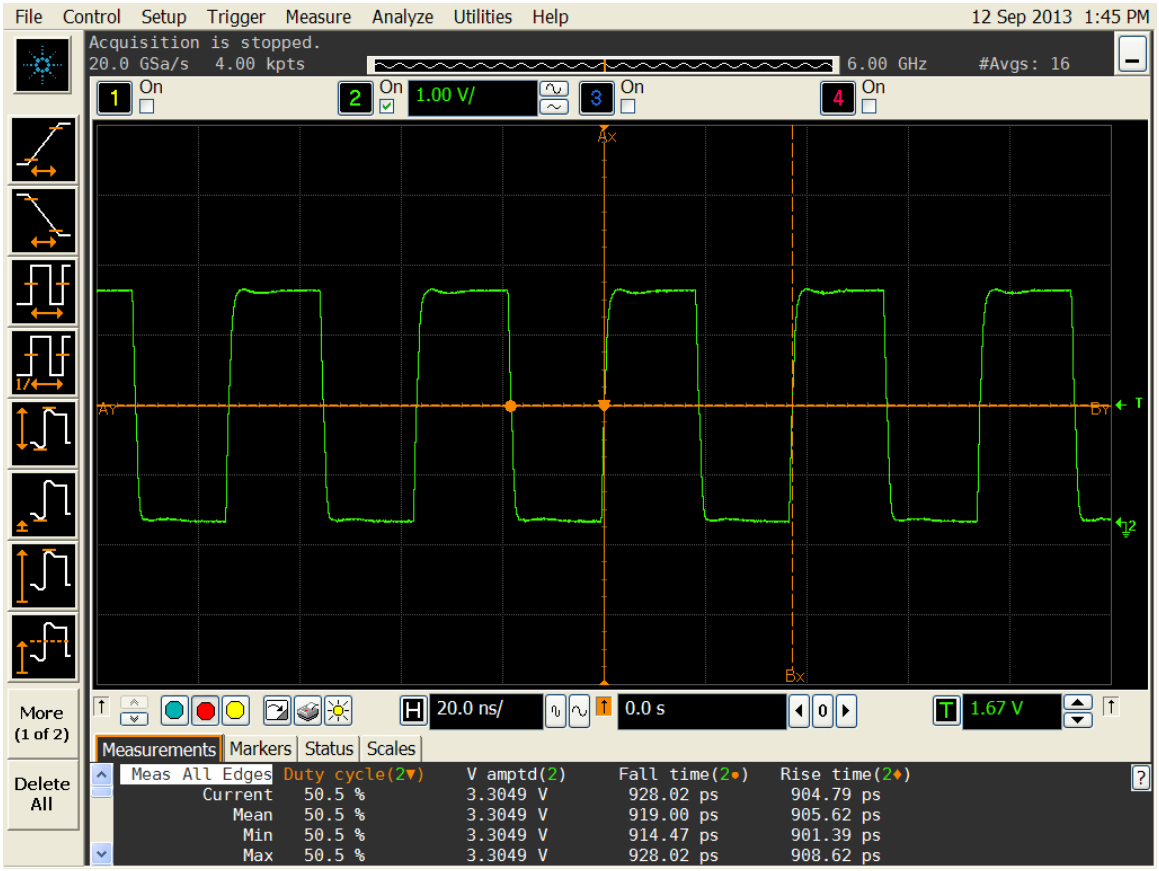

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

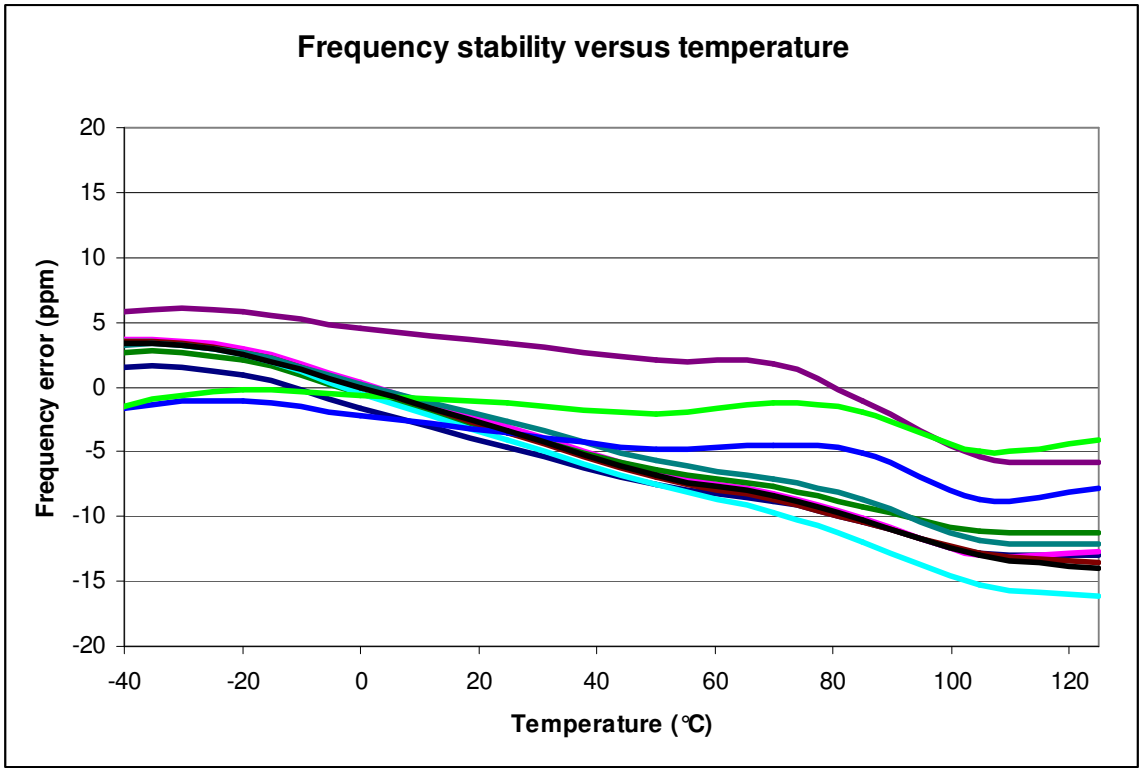

Figure 6. Frequency stability* versus temperature

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