This report contains sample performance data for SiT2020B-48MHz.

Conditions:

- Frequency 48 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	0.60	0.63	0.62	0.63	0.63
Random Phase jitter (12kHz - 20MHz)	ps, rms	1.33	1.36	1.37	1.38	1.37
Period jitter	ps, rms	1.66	1.40	1.39	1.36	1.33
Period jitter (10,000 cycles)	ps, pk-pk	12.7	11.6	11.3	11.2	11.1
Duty cycle	%	49.9	49.9	50.2	50.6	50.9
Rise time (20% - 80%)	ns	1.21	0.98	0.90	0.95	0.90
Fall time (80% - 20%)	ns	1.24	0.96	0.88	0.96	0.91
Amplitude	V	1.76	2.45	2.74	2.97	3.27
Current consumption (no load, output enabled)	mA	3.89	4.10	4.21	4.26	4.37
Current consumption (no load, output disabled)	mA	3.41	3.49	3.54	3.57	3.65

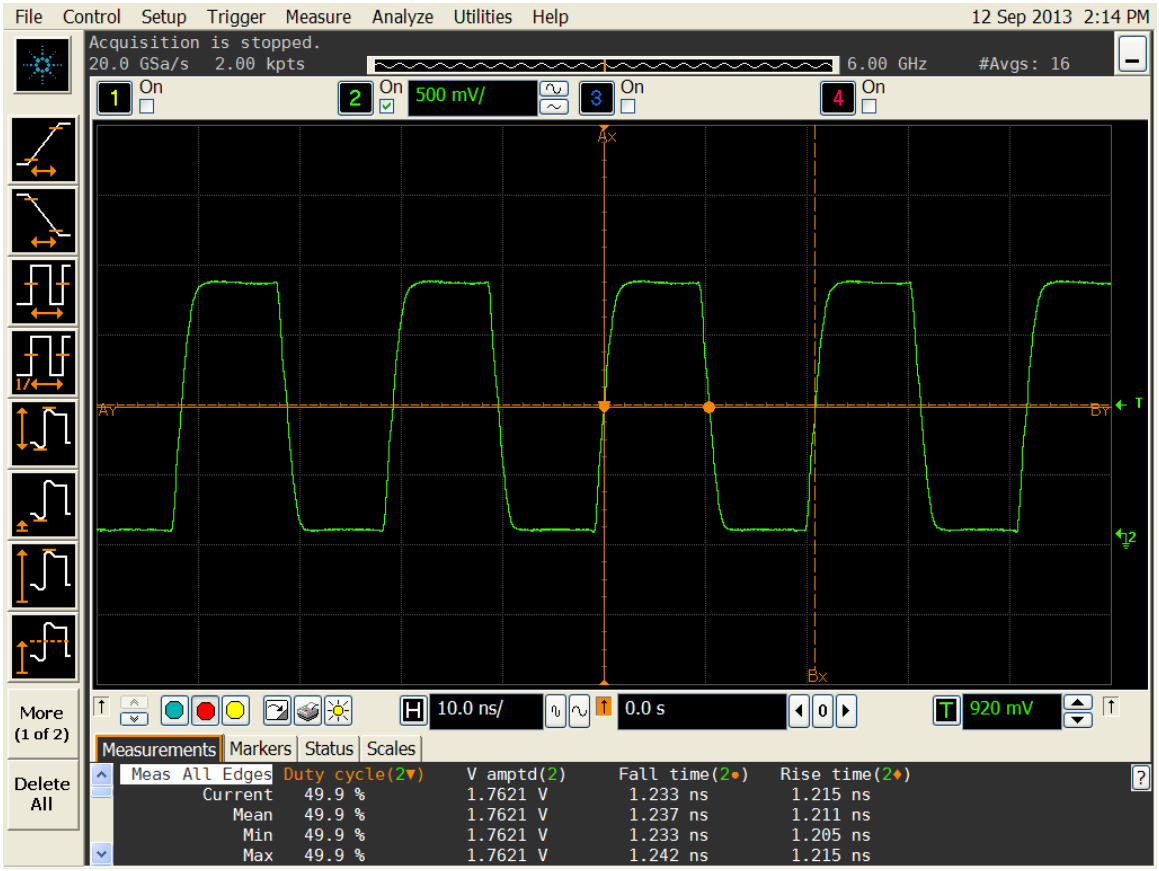

Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

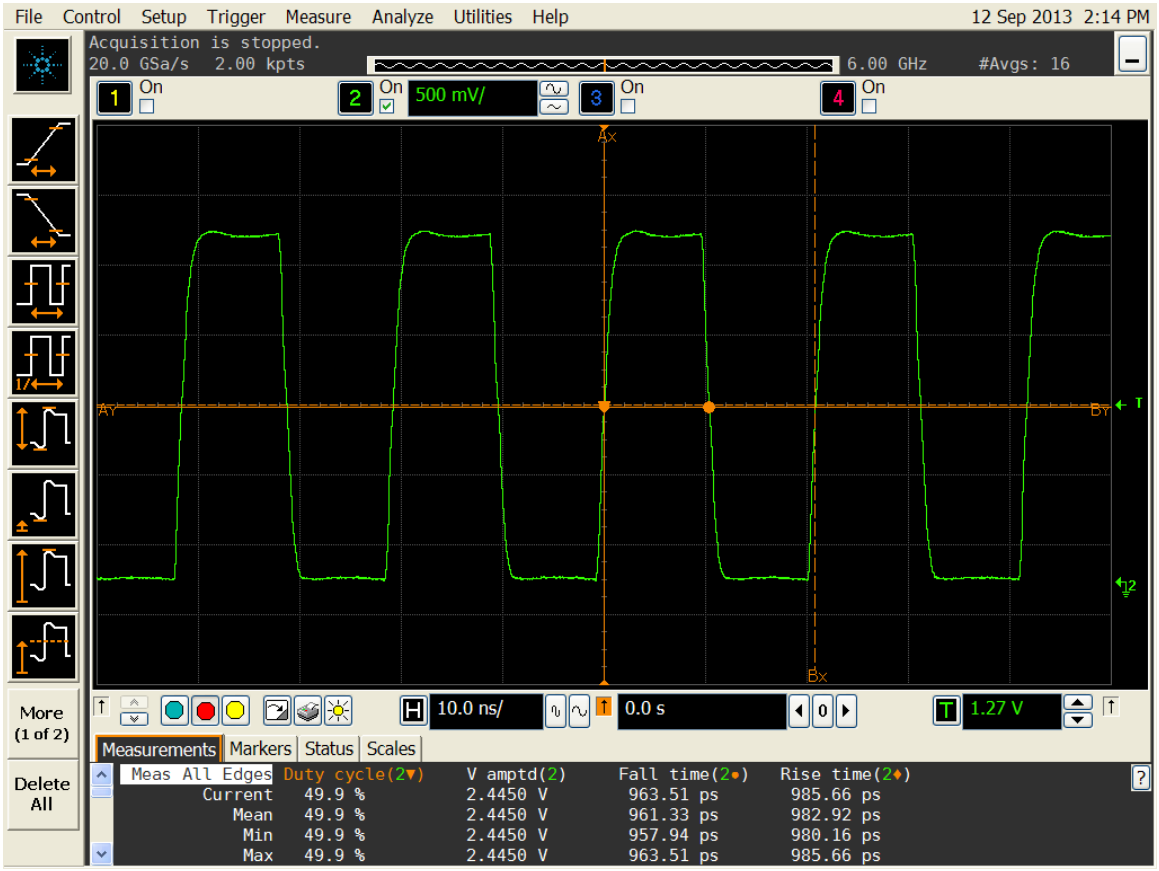

Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

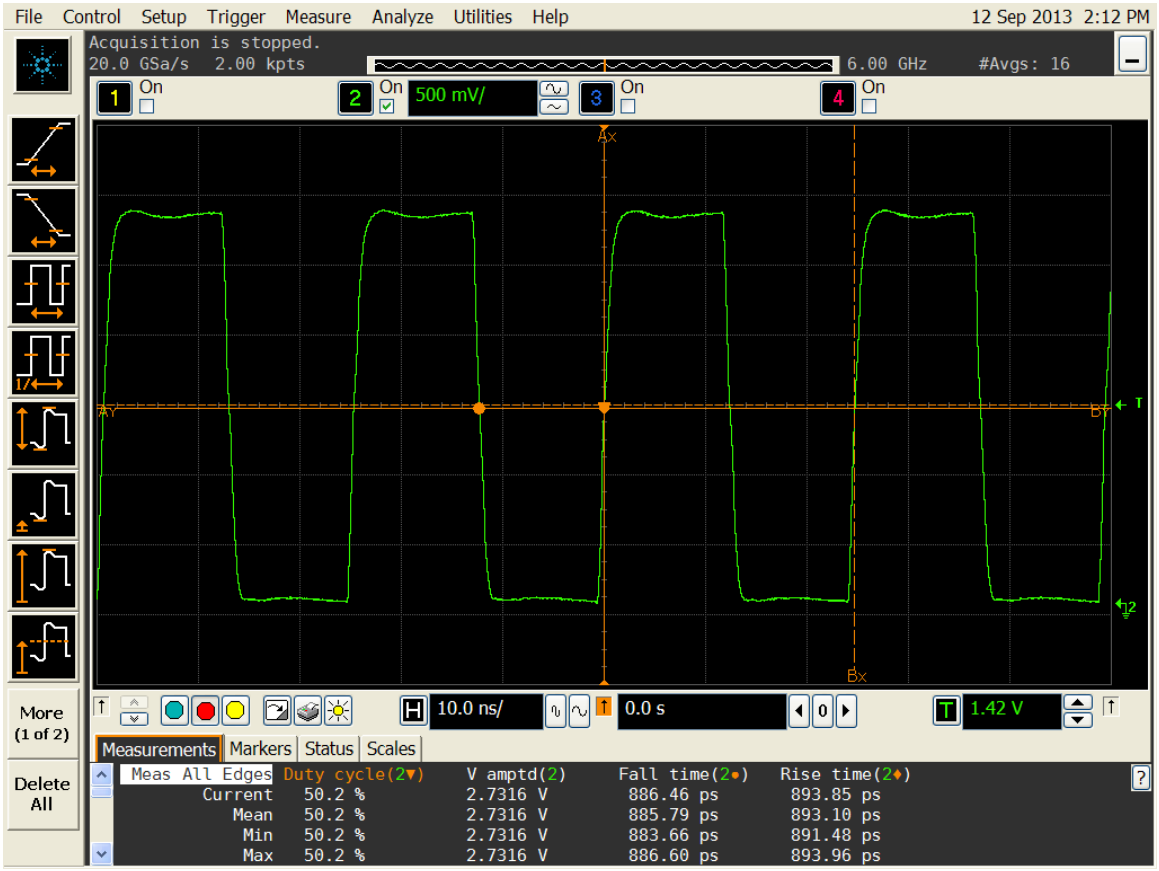

Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

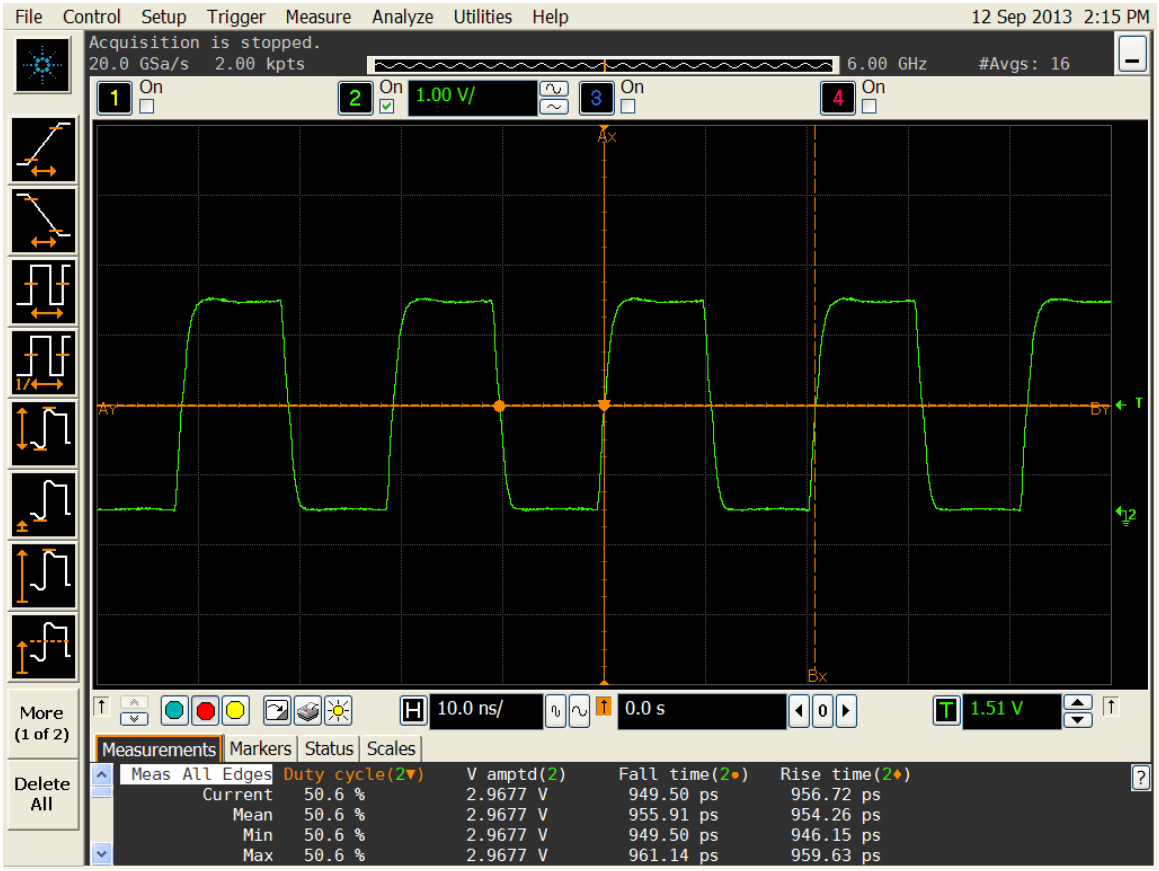

Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

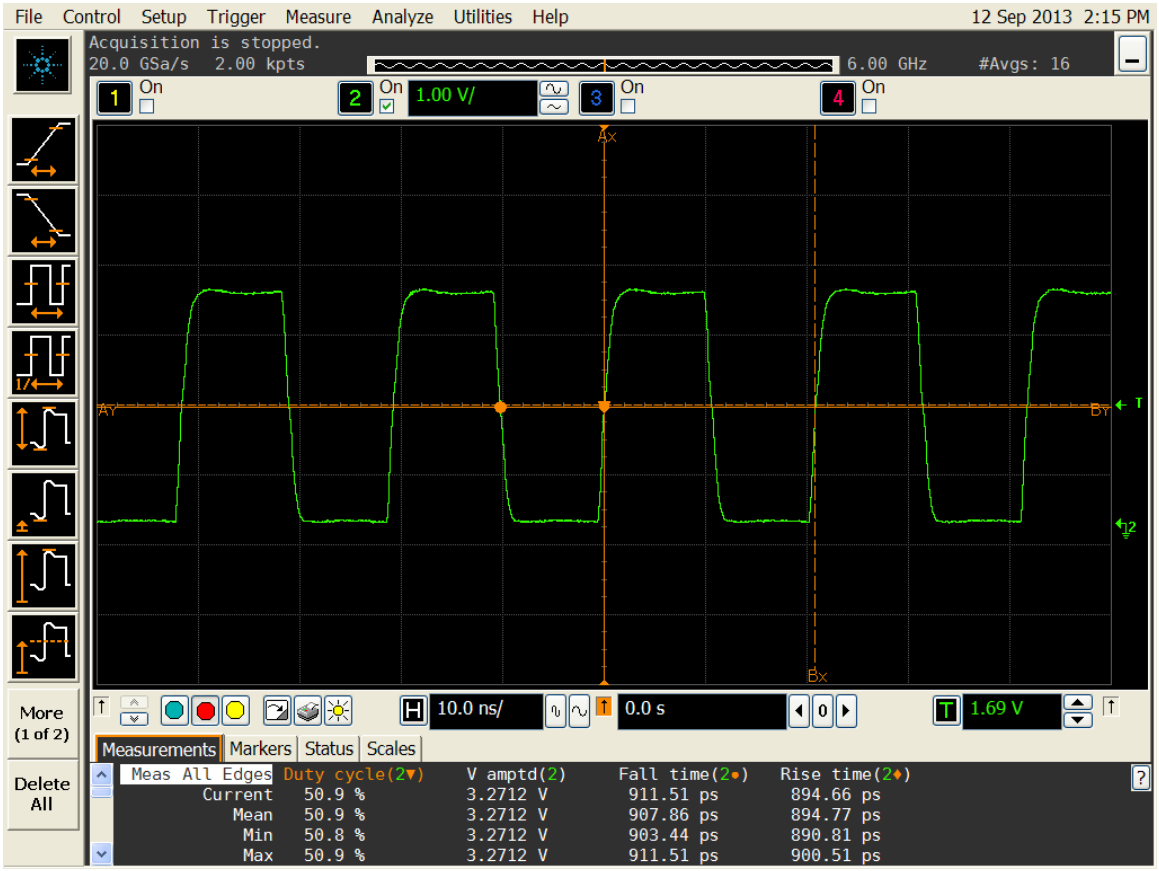

Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

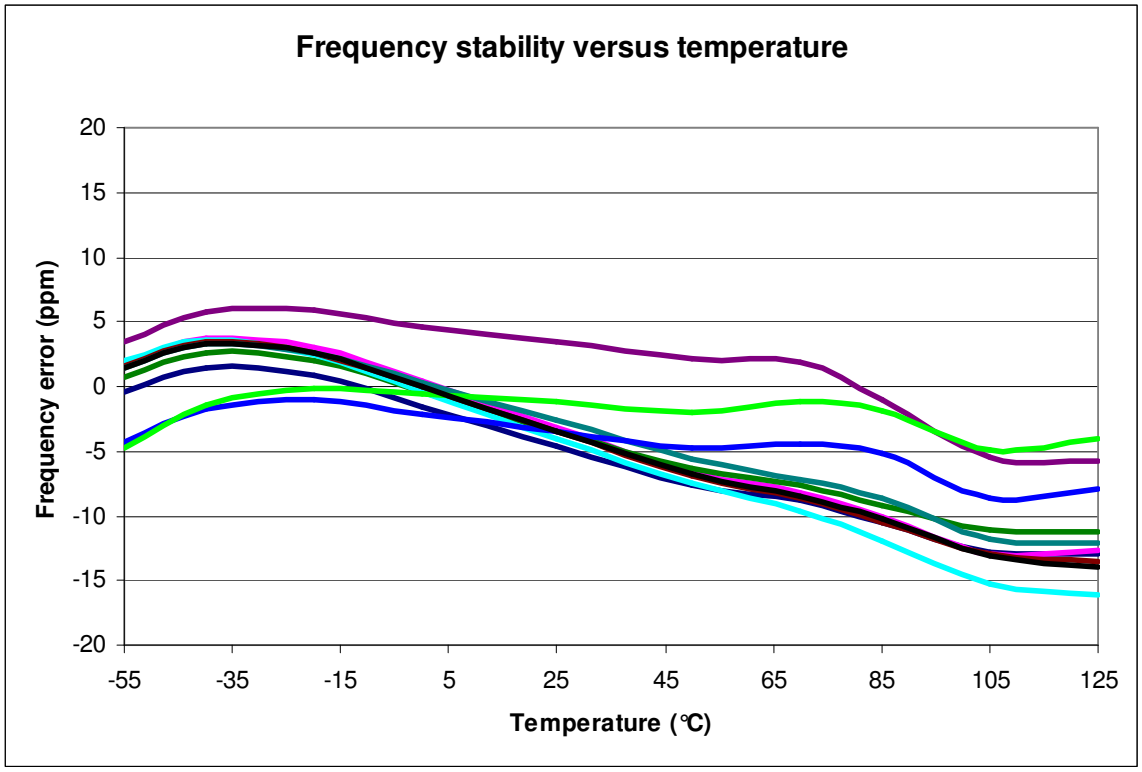

Figure 6. Frequency stability* versus temperature

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