	Title:	Performance Report SiT8008B, 38.4MHz			
	Type:	Performance report	Rev:	1.0	
	Orig:		Date:	Mar 31, 2014	

This report contains sample performance data for SiT8008B-38.4MHz.

Conditions:

- Frequency 38.4 MHz
- Vdd 1.8V, 2.5V, 2.8V, 3.0V, 3.3V
- Temperature 25 °C
- Termination:
 - o No load for IDD
 - o 50Ω to GND for phase noise
 - o 15pF for other tests

Equipment:

- Agilent DSA90604 oscilloscope (6GHz, 20Gpsps)
 - o Period jitter, waveform, rise/fall time, duty cycle, amplitude
- Agilent E5052B Signal Source Analyzer
 - o Phase noise, integrated phase jitter
- Power supply current
 - o 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	0.48	0.50	0.51	0.52	0.51
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.26	1.27	1.27	1.28	1.27
Random Phase jitter (900kHz - 20MHz)*	ps, rms	0.72	0.79	0.79	0.80	0.79
Random Phase jitter (12kHz - 20MHz)*	ps, rms	1.38	1.42	1.42	1.43	1.42
Period jitter	ps, rms	1.84	1.66	1.61	1.63	1.60
Period jitter (10,000 cycles)	ps, pk-pk	14.0	12.2	11.9	11.8	11.9
Duty cycle	%	49.9	49.8	50.1	50.4	50.6
Rise time (20% - 80%)	ns	1.24	1.03	0.94	0.98	0.94
Fall time (80% - 20%)	ns	1.24	0.98	0.90	0.96	0.92
Amplitude	V	1.77	2.45	2.76	2.97	3.29
Current consumption (no load, output enabled)	mA	3.79	3.98	4.06	4.10	4.20
Current consumption (no load, output disabled)	mA	3.43	3.50	3.56	3.59	3.67

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



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

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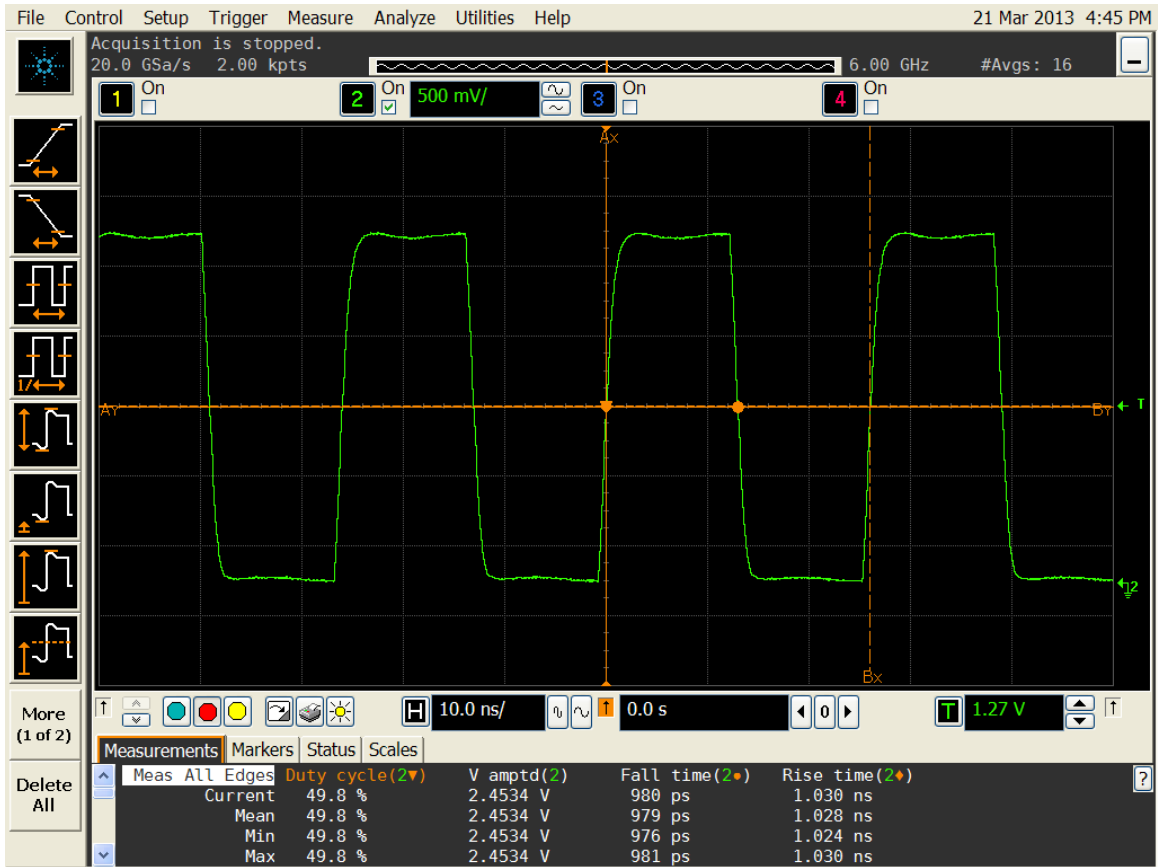



Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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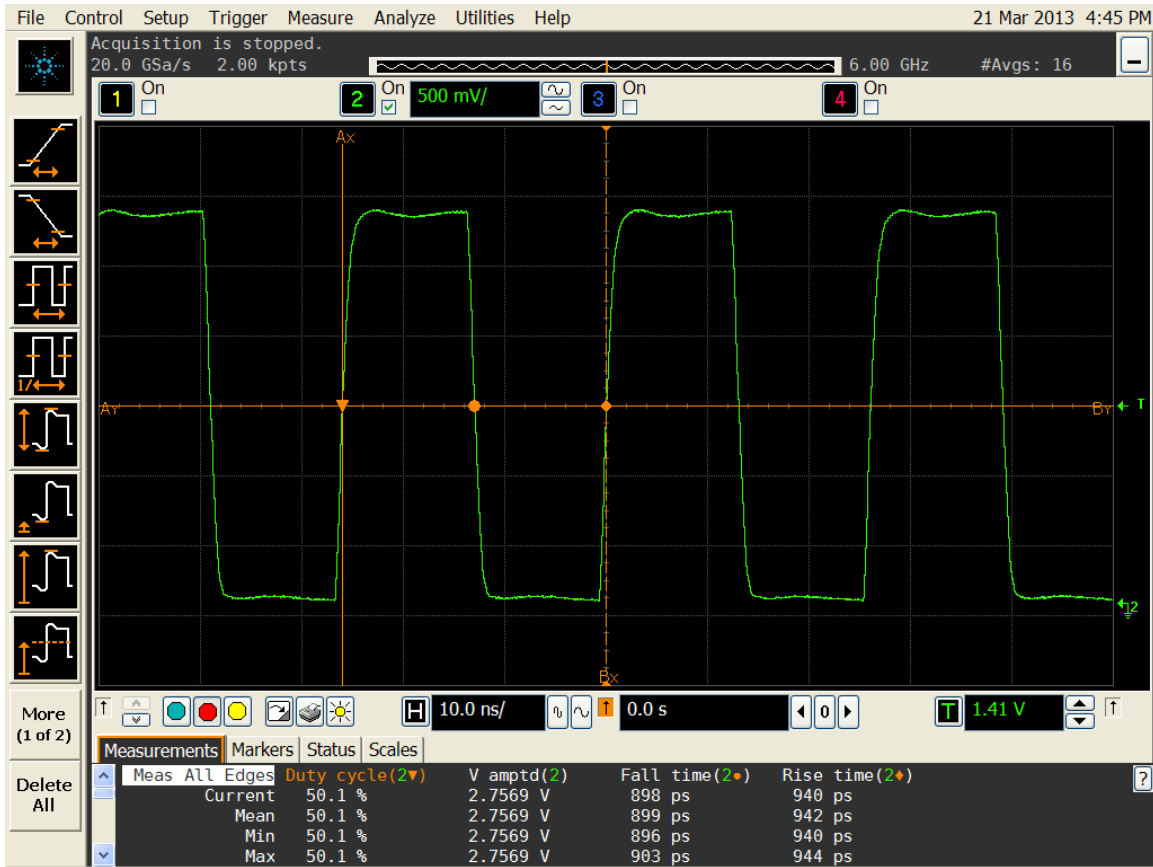



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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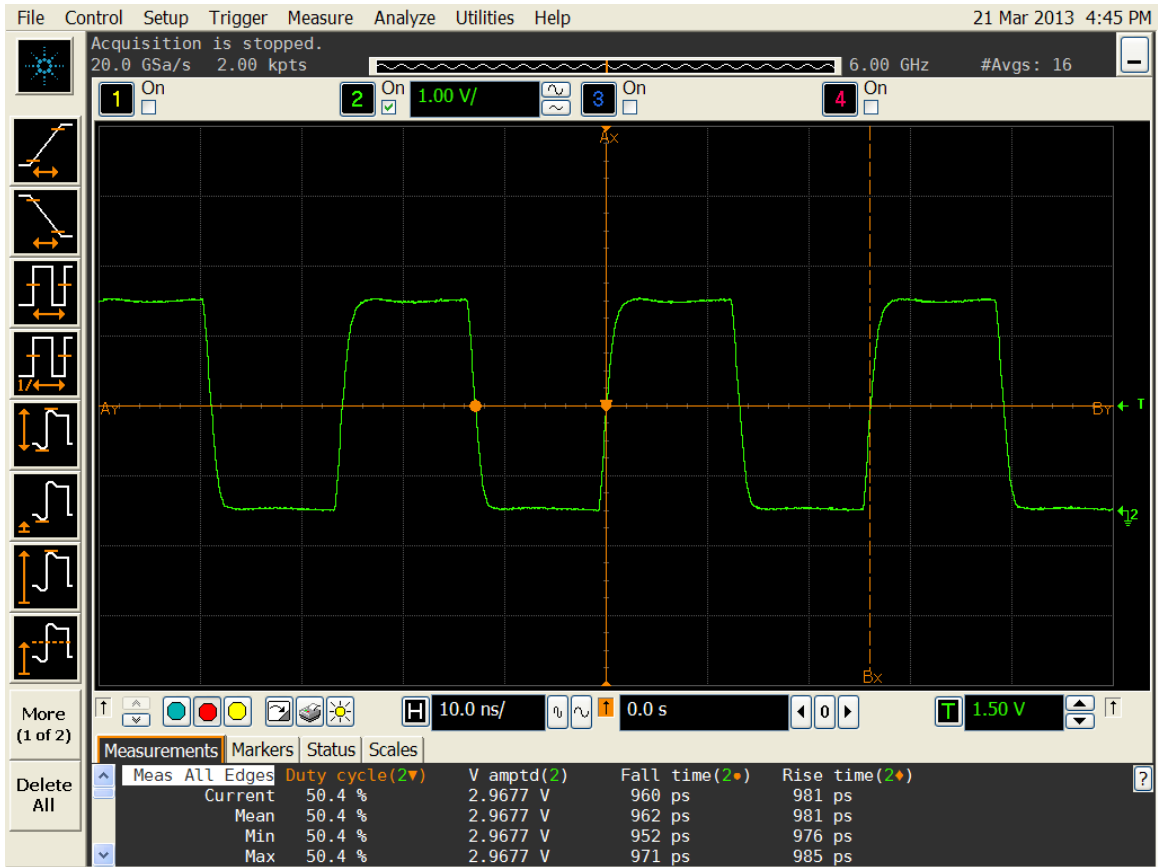



Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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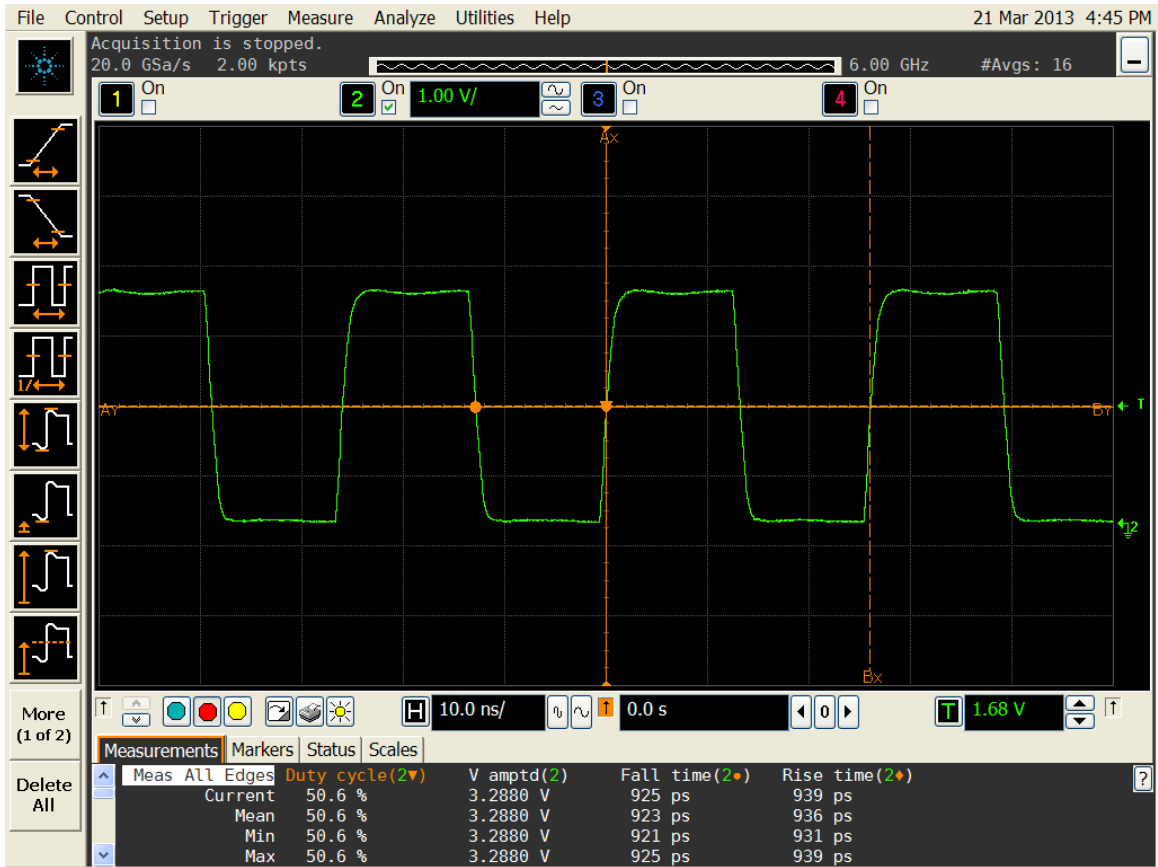


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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Figure 6. Frequency stability* versus temperature, 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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