	Title:	Performance Report SiT1618B, 36MHz			
	Type:	Performance report	Rev:	1.0	
	Orig:		Date:	Nov 24, 2014	

This report contains sample performance data for SiT1618B-36MHz.

Conditions:

- Frequency 36 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, 20Gsps)
 - 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	0.50	0.54	0.52	0.54	0.54
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.40	1.42	1.40	1.41	1.41
Random Phase jitter (900kHz – 20MHz)*	ps, rms	0.75	0.83	0.81	0.83	0.83
Random Phase jitter (12kHz – 20MHz)*	ps, rms	1.51	1.55	1.53	1.54	1.54
Period jitter	ps, rms	1.99	1.72	1.68	1.69	1.65
Period jitter (10,000 cycles)	ps, pk-pk	14.8	12.6	12.5	11.7	11.7
Duty cycle	%	49.9	49.8	50.1	50.4	50.6
Rise time (20% - 80%)	ns	1.23	1.00	0.91	0.96	0.90
Fall time (80% - 20%)	ns	1.24	0.97	0.89	0.96	0.91
Amplitude	V	1.77	2.46	2.76	2.98	3.27
Current consumption (no load, output enabled)	mA	3.72	3.91	3.99	4.03	4.12
Current consumption (no load, output disabled)	mA	3.39	3.47	3.52	3.56	3.63

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

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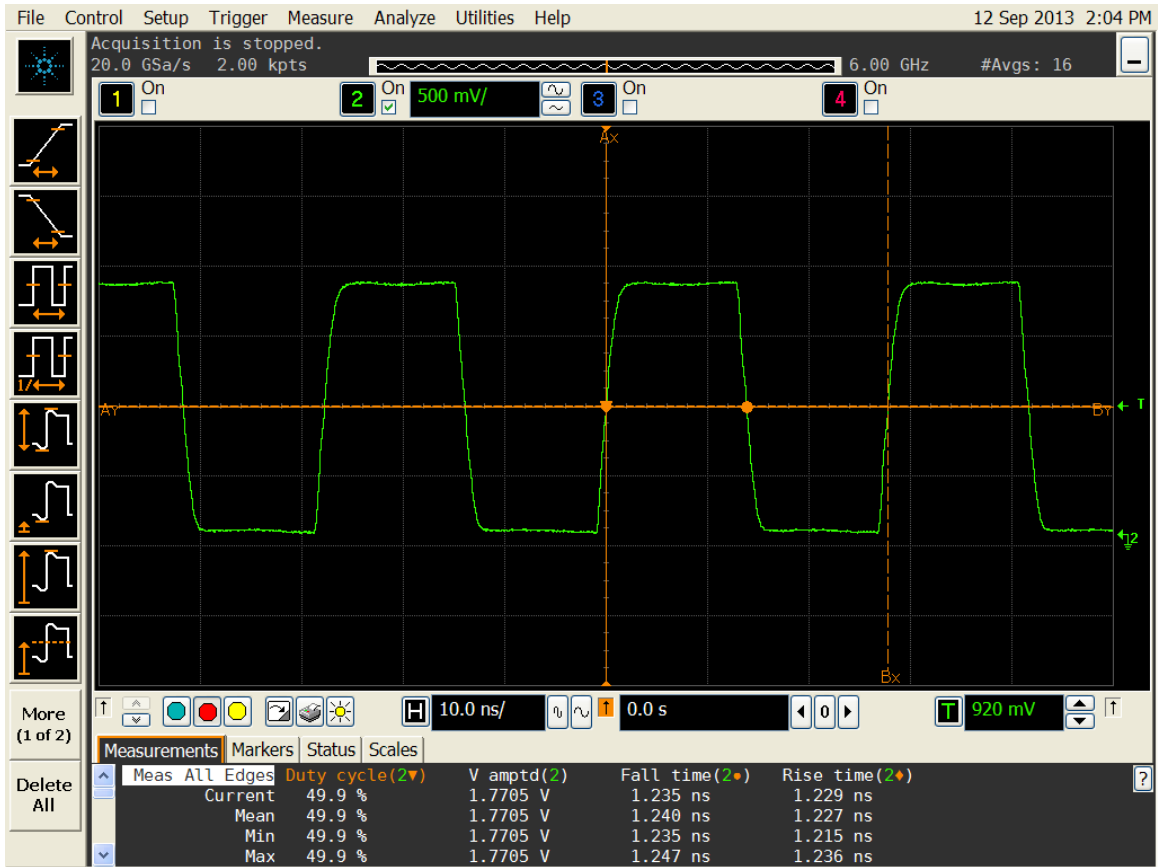


Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V



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

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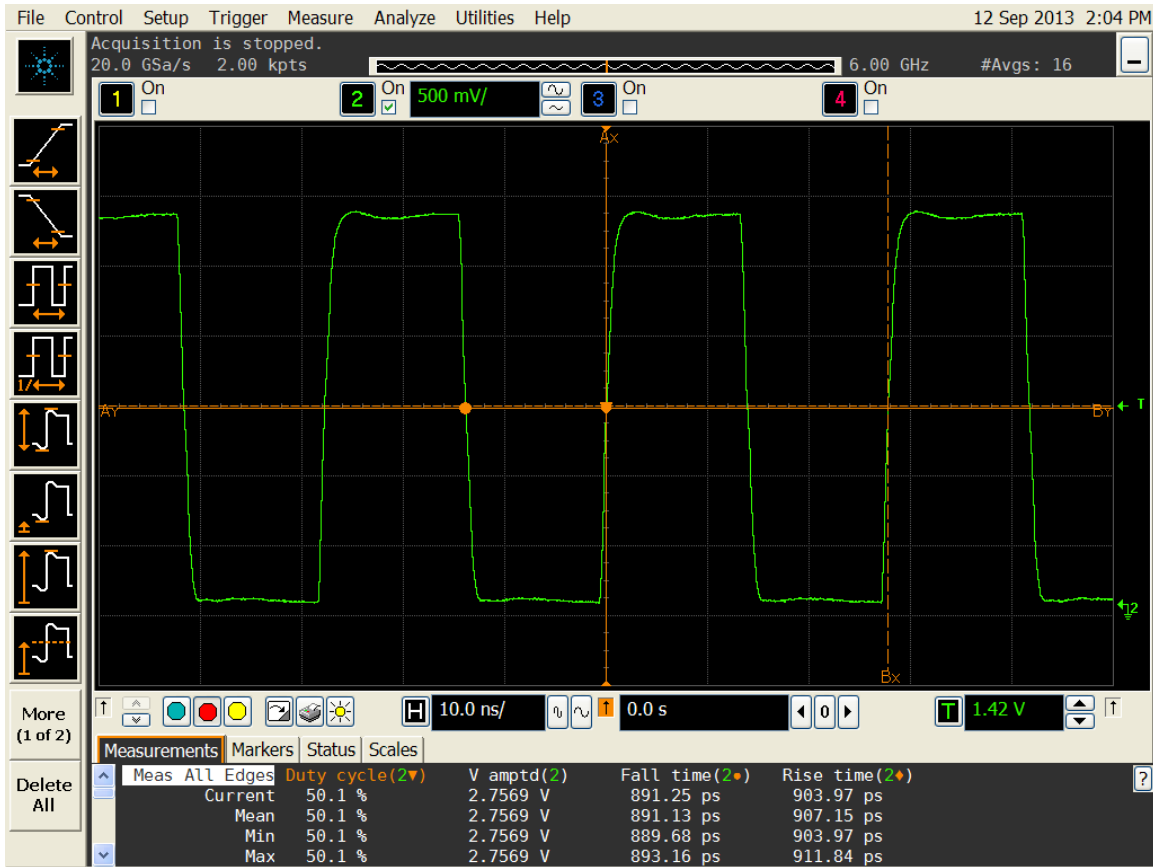



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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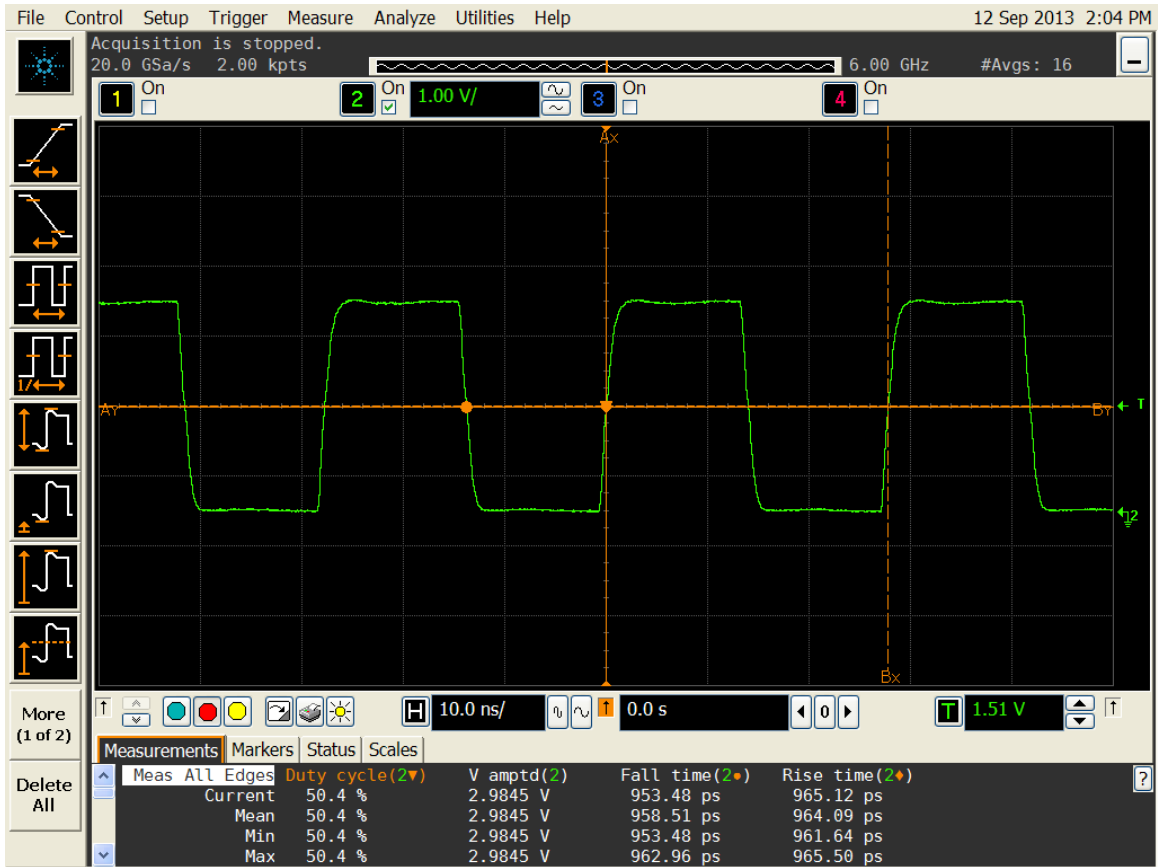



Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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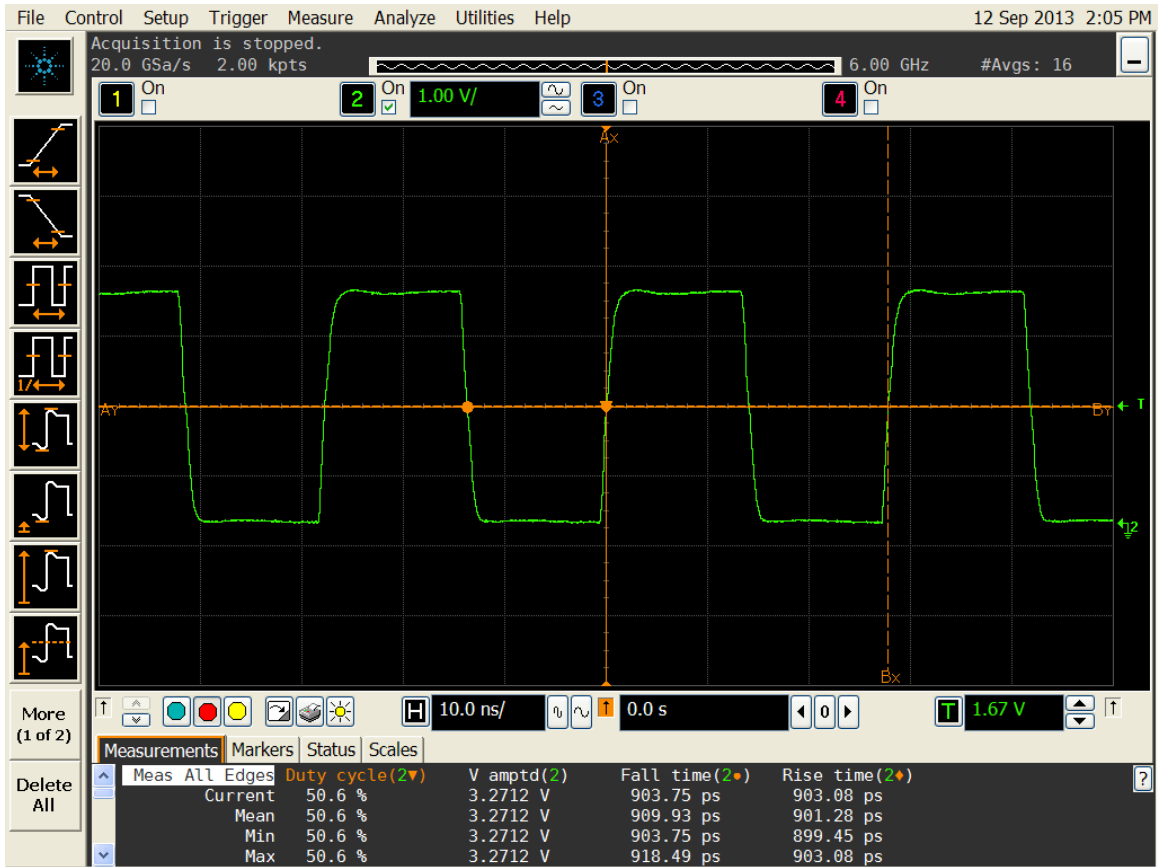


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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Figure 6. Frequency stability* versus temperature

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