	Title:	Performance Report SiT2020B, 33MHz			
	Type:	Performance report	Rev:	1.0	
	Orig:		Date:	Nov 21, 2014	

This report contains sample performance data for SiT2020B-33MHz.

Conditions:

- Frequency 33 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	0.47	0.49	0.47	0.49	0.47
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.22	1.19	1.16	1.18	1.17
Random Phase jitter (900kHz – 20MHz)*	ps, rms	0.73	0.77	0.74	0.75	0.75
Random Phase jitter (12kHz – 20MHz)*	ps, rms	1.34	1.32	1.30	1.31	1.31
Period jitter	ps, rms	2.61	2.00	1.84	1.87	1.76
Period jitter (10,000 cycles)	ps, pk-pk	18.2	14.1	13.2	13.4	12.9
Duty cycle	%	49.9	49.9	50.1	50.3	50.5
Rise time (20% - 80%)	ns	1.22	1.00	0.91	0.96	0.91
Fall time (80% - 20%)	ns	1.24	0.97	0.89	0.96	0.91
Amplitude	V	1.77	2.47	2.77	2.98	3.29
Current consumption (no load, output enabled)	mA	3.74	3.91	3.98	4.02	4.11
Current consumption (no load, output disabled)	mA	3.44	3.51	3.56	3.60	3.67

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

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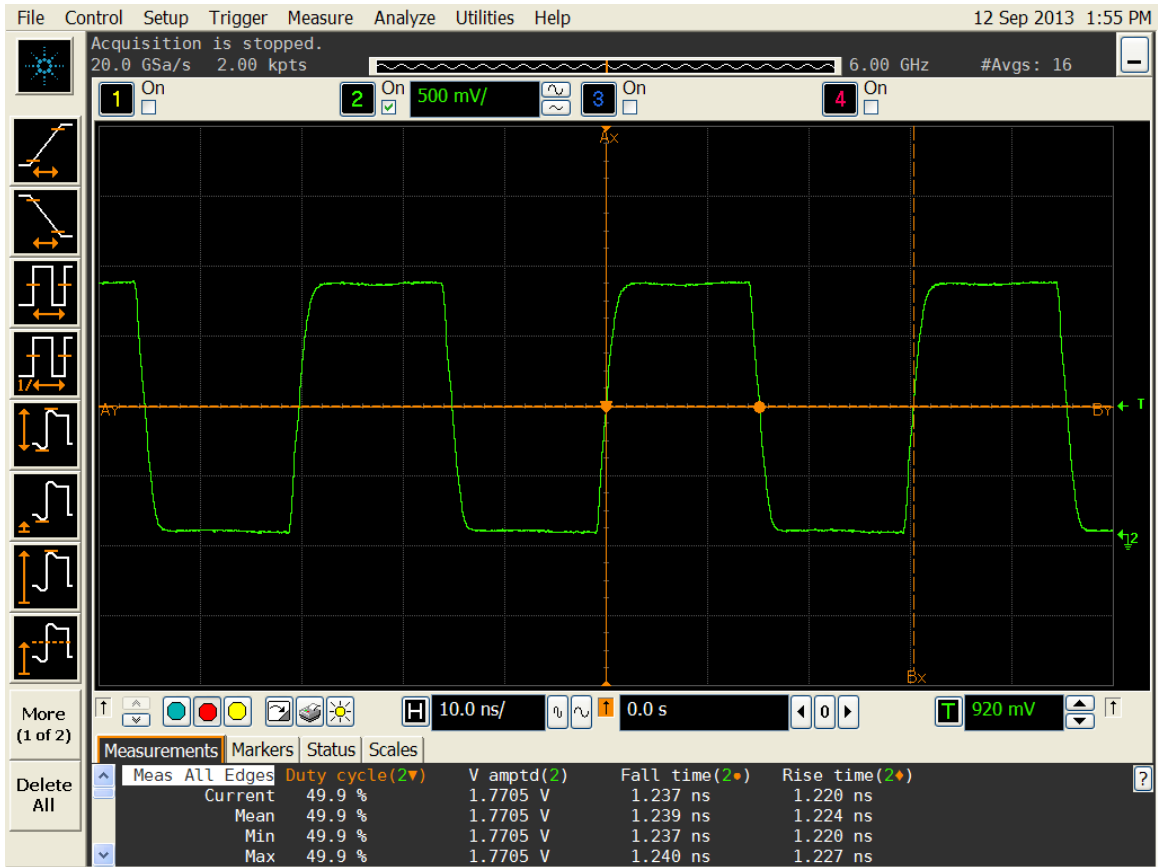



Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

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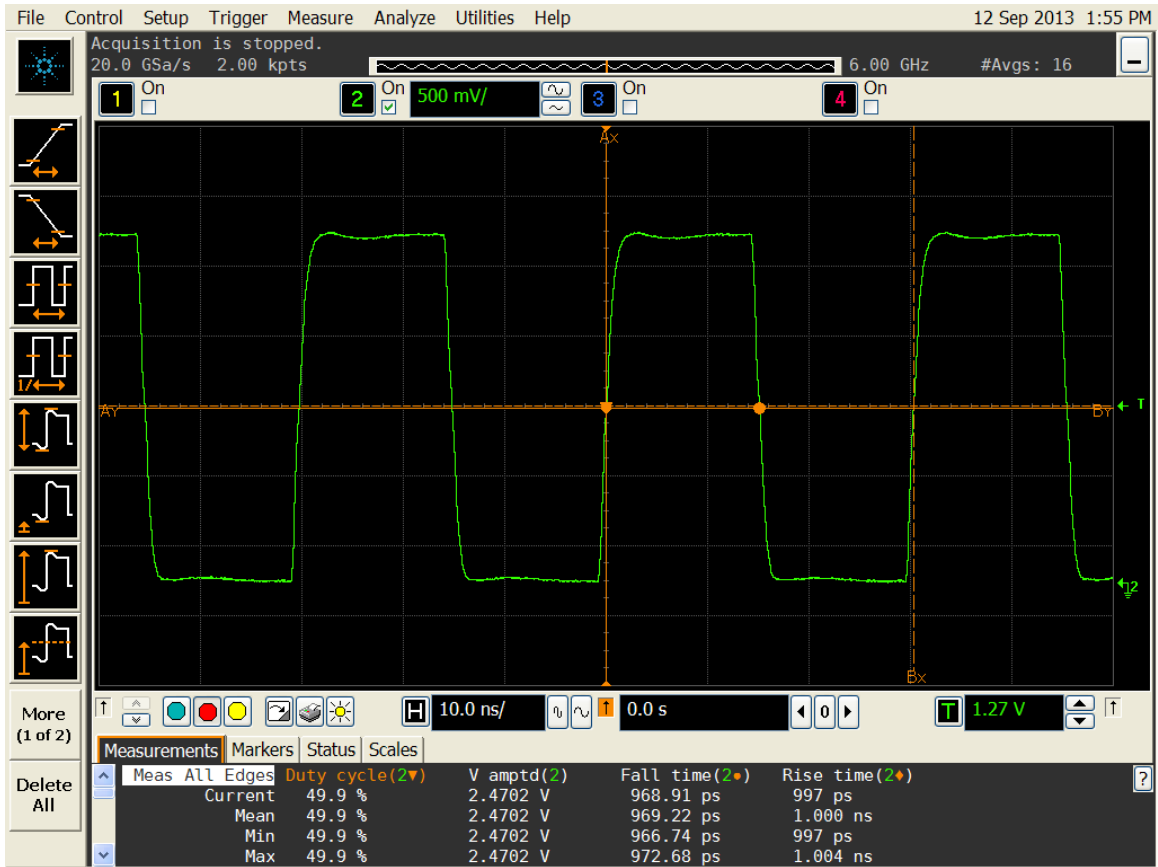



Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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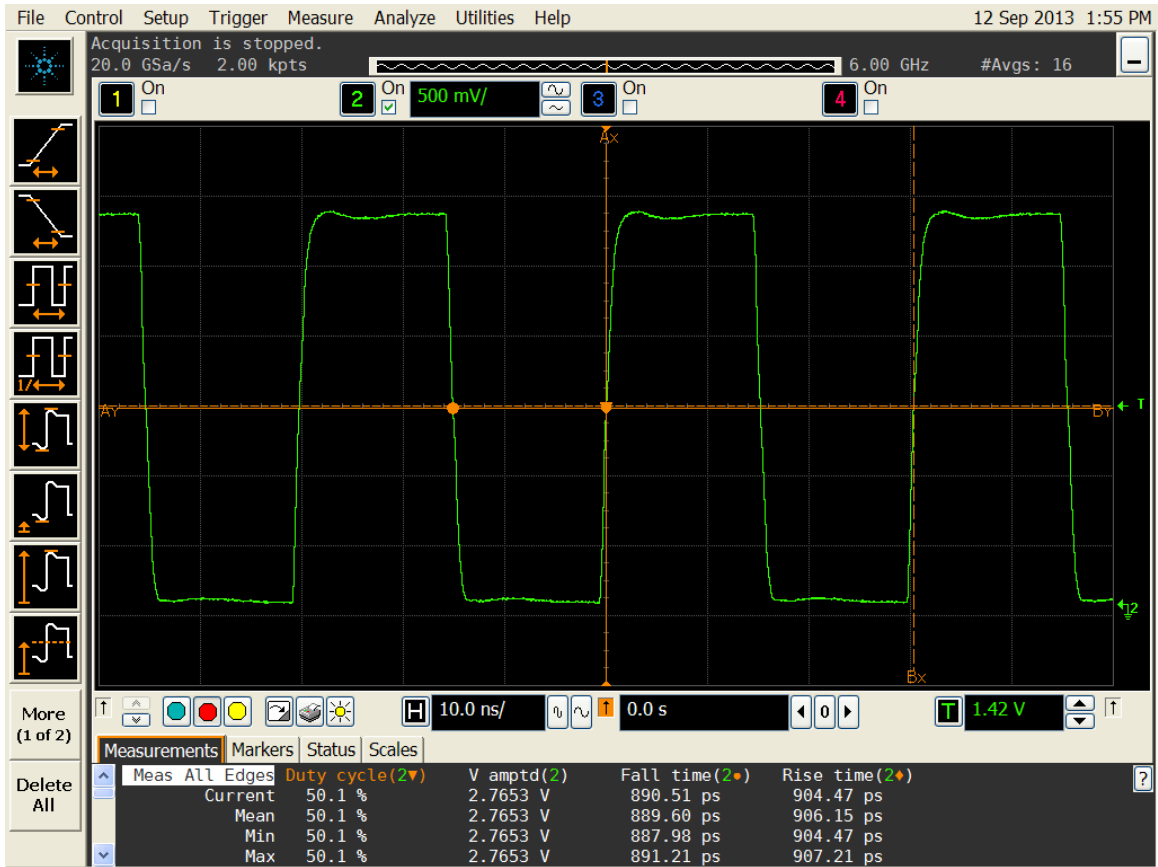



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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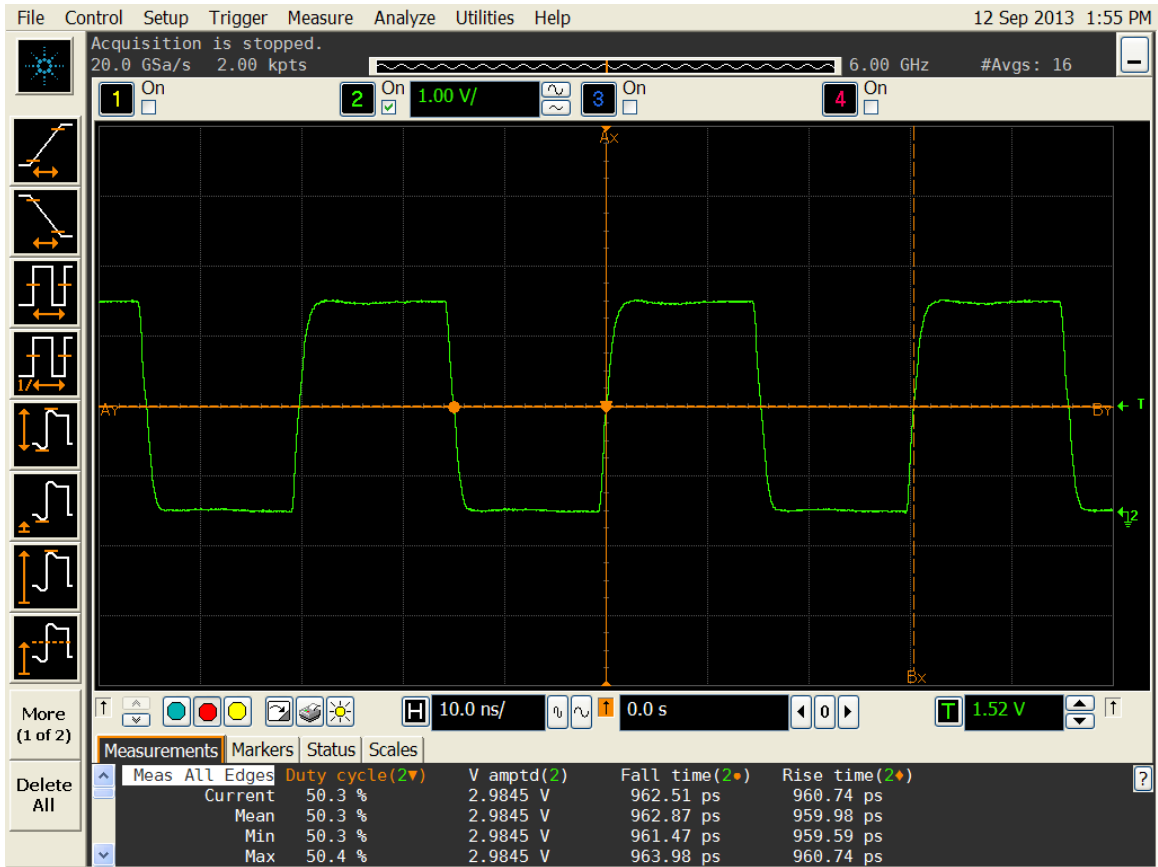



Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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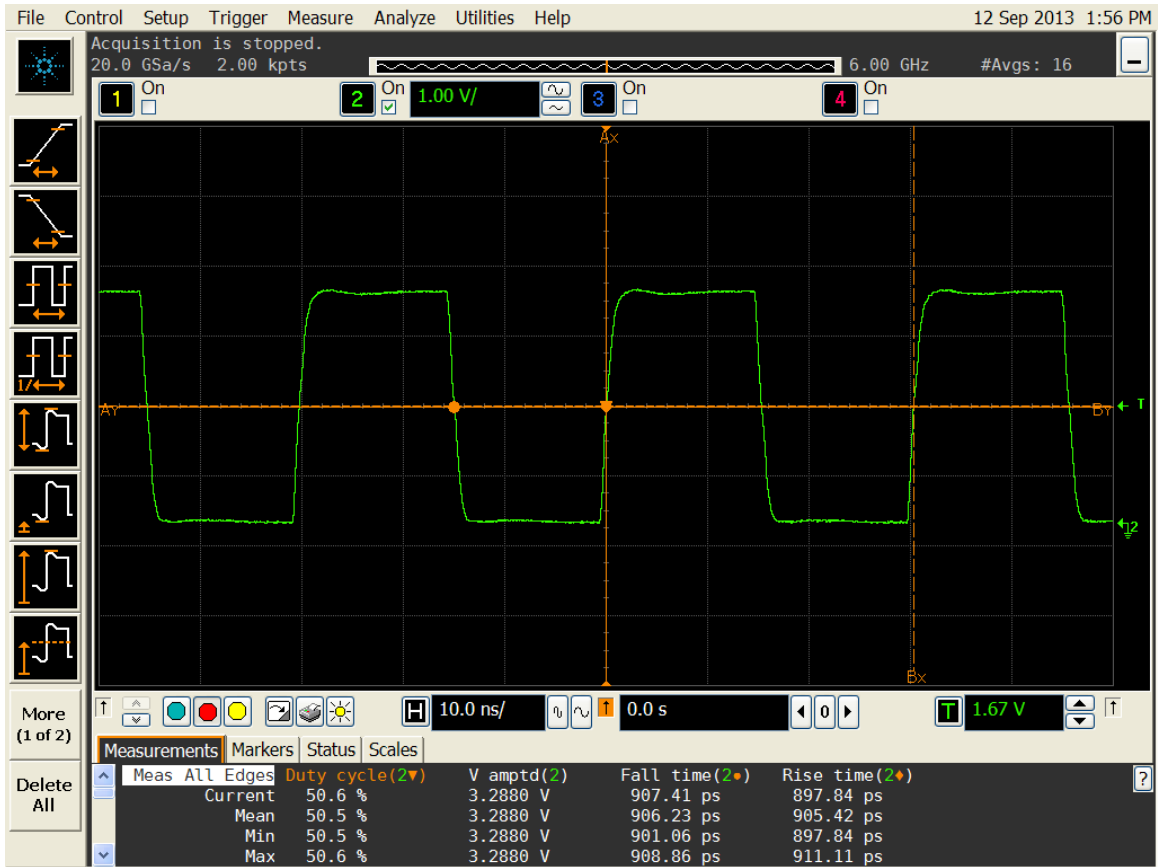


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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Figure 6. Frequency stability* versus temperature

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