	Title:	Performance Report SiT2020B, 13MHz			
	Type:	Performance report	Rev:	1.0	
	Orig:		Date:	Nov 21, 2014	

This report contains sample performance data for SiT2020B-13MHz.

Conditions:

- Frequency 13 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	0.55	0.58	0.57	0.57	0.56
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.25	1.27	1.26	1.27	1.25
Random Phase jitter (900kHz – 13MHz)*	ps, rms	0.82	0.88	0.91	0.92	0.95
Random Phase jitter (12kHz – 13MHz)*	ps, rms	1.39	1.44	1.44	1.46	1.46
Period jitter	ps, rms	2.56	1.95	1.86	1.83	1.77
Period jitter (10,000 cycles)	ps, pk-pk	18.5	13.9	13.4	13.5	13.2
Duty cycle	%	50.0	50.0	50.1	50.1	50.2
Rise time (20% - 80%)	ns	1.24	1.00	0.91	0.97	0.90
Fall time (80% - 20%)	ns	1.27	0.98	0.90	0.97	0.92
Amplitude	V	1.79	2.48	2.78	3.02	3.30
Current consumption (no load, output enabled)	mA	3.44	3.54	3.58	3.59	3.65
Current consumption (no load, output disabled)	mA	3.36	3.44	3.49	3.53	3.60

*Calculated by extending the noise floor of the phase noise from 5 MHz to 13 MHz

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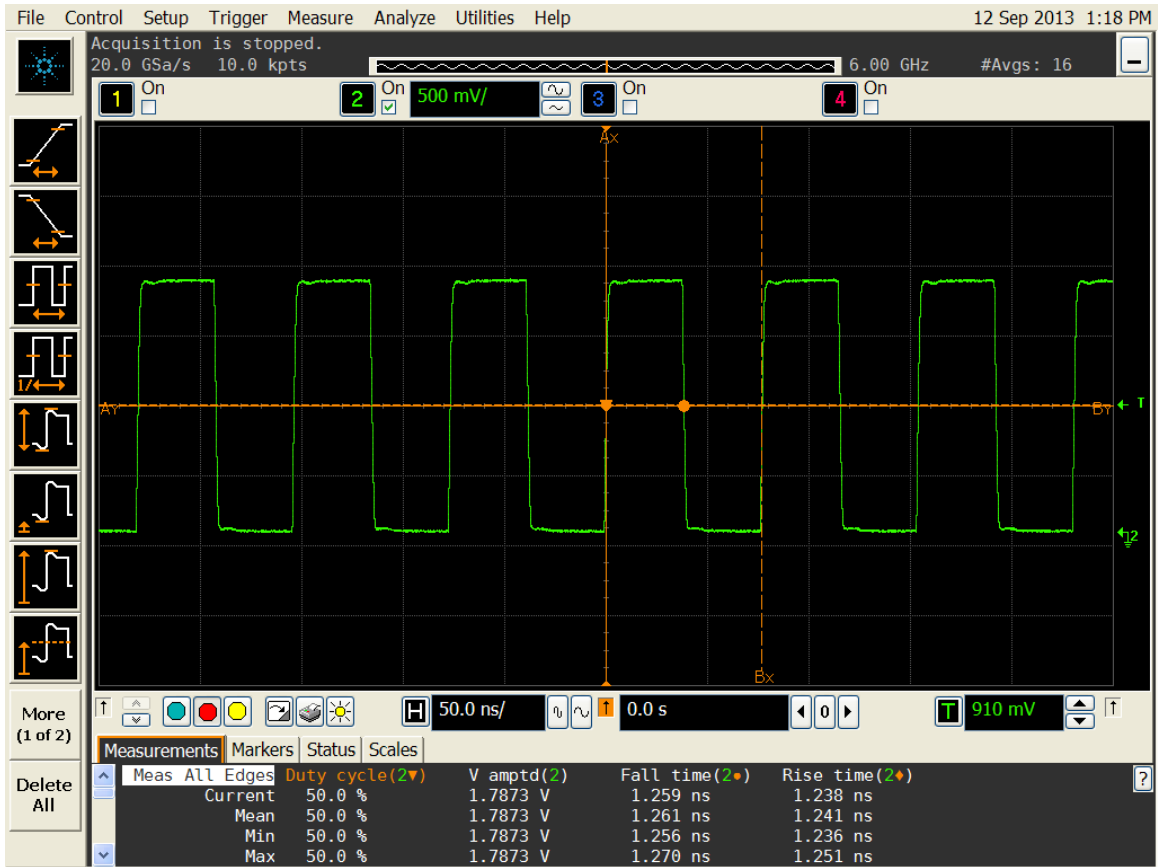



Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

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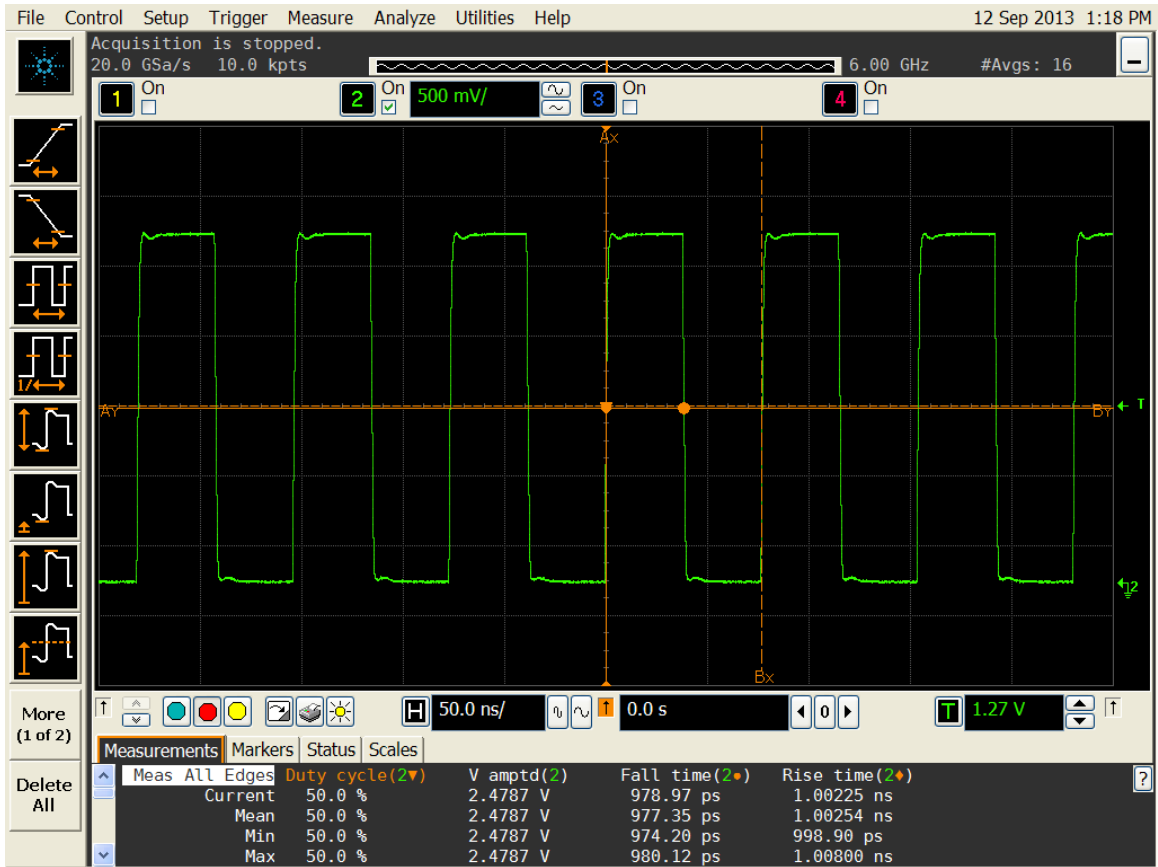



Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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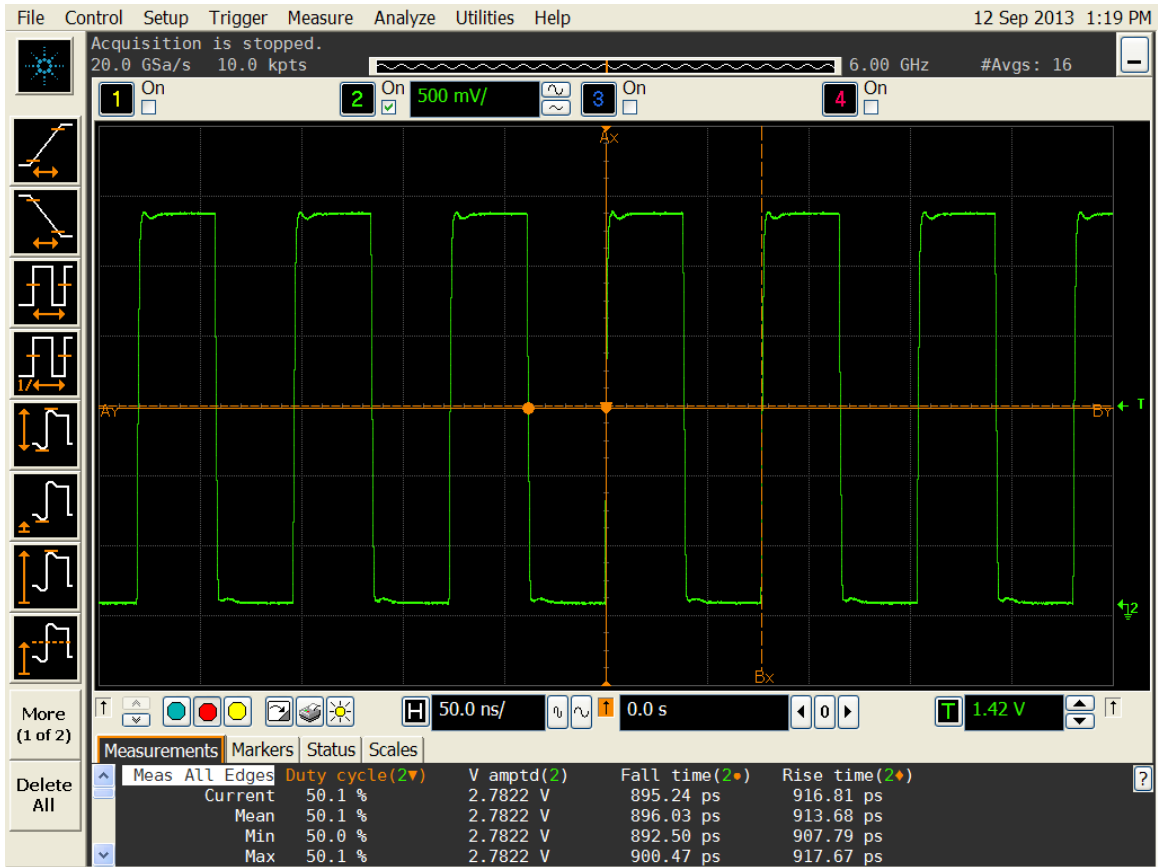



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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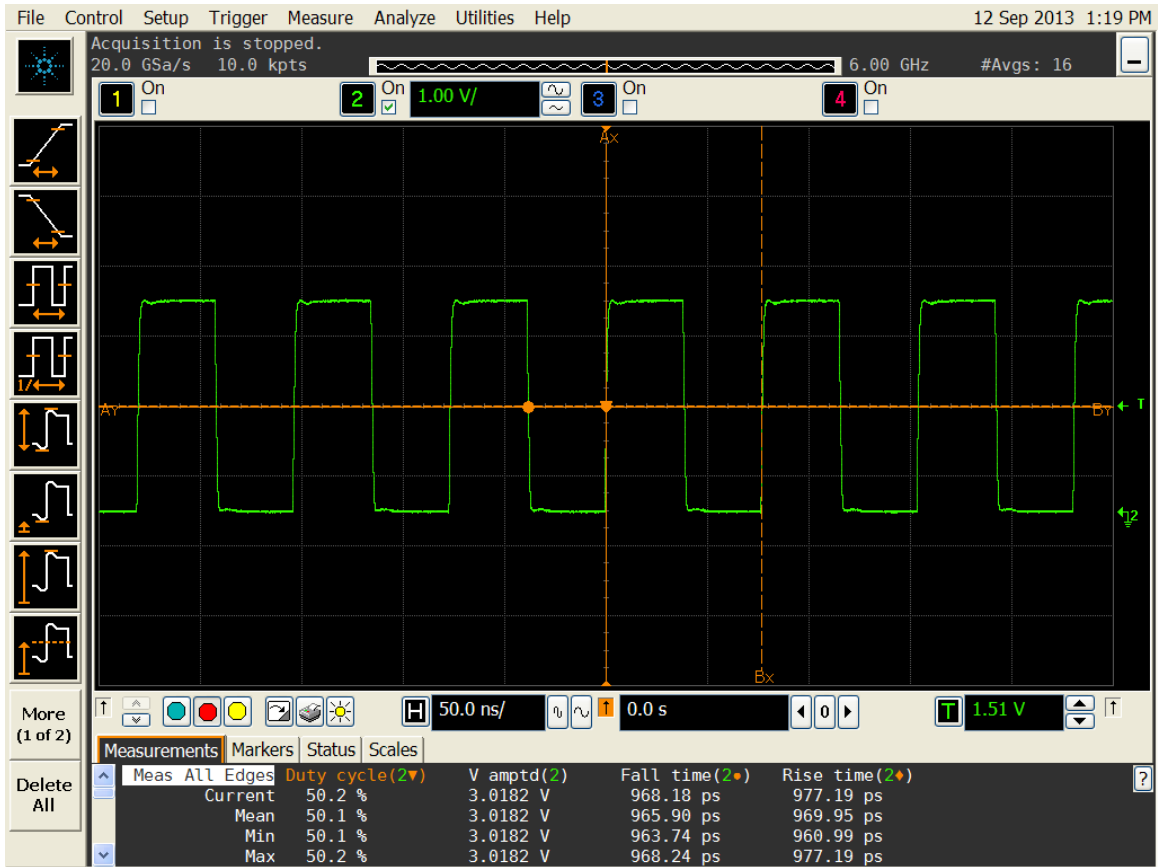



Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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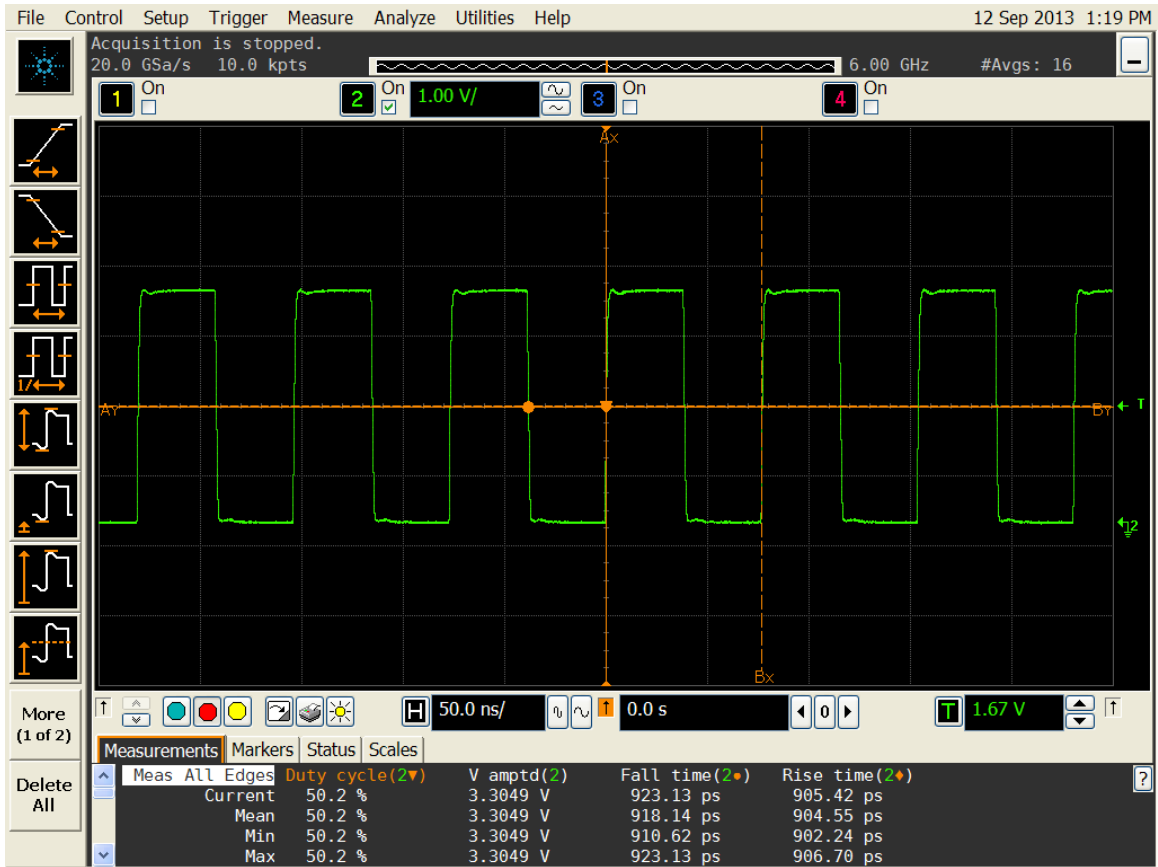


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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Figure 6. Frequency stability* versus temperature

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