	Title:	Performance Report SiT2020B, 54MHz			
	Type:	Performance report	Rev:	1.0	
	Orig:		Date:	Nov 24, 2014	

This report contains sample performance data for SiT2020B-54MHz.

Conditions:

- Frequency 54 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 - 20MHz)	ps, rms	0.64	0.69	0.68	0.70	0.69
Random Phase jitter (12kHz - 20MHz)	ps, rms	1.50	1.50	1.49	1.50	1.49
Period jitter	ps, rms	2.47	1.72	1.57	1.60	1.55
Period jitter (10,000 cycles)	ps, pk-pk	17.6	13.2	12.0	12.5	11.5
Duty cycle	%	49.9	49.9	50.3	50.7	51.0
Rise time (20% - 80%)	ns	1.23	0.99	0.90	0.95	0.89
Fall time (80% - 20%)	ns	1.25	0.96	0.89	0.96	0.91
Amplitude	V	1.76	2.45	2.74	2.97	3.25
Current consumption (no load, output enabled)	mA	4.01	4.25	4.37	4.42	4.54
Current consumption (no load, output disabled)	mA	3.47	3.54	3.60	3.64	3.71

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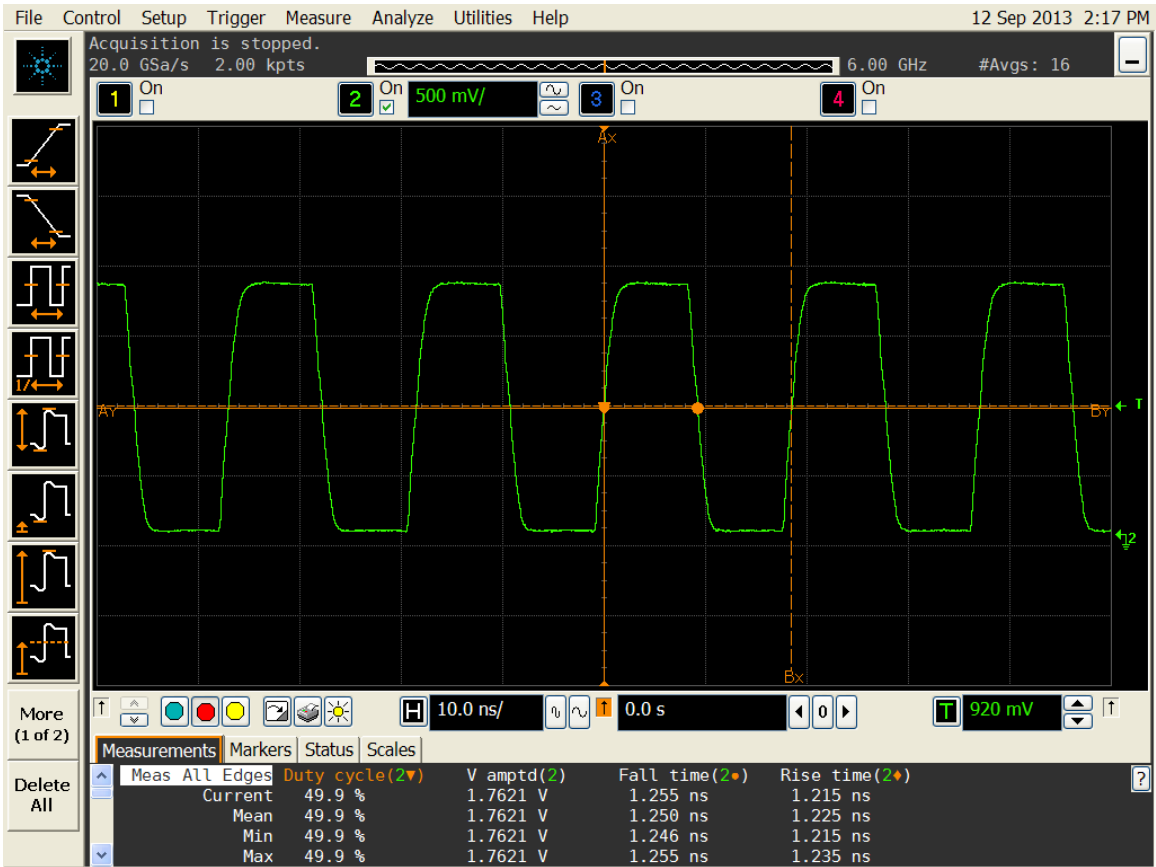



Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

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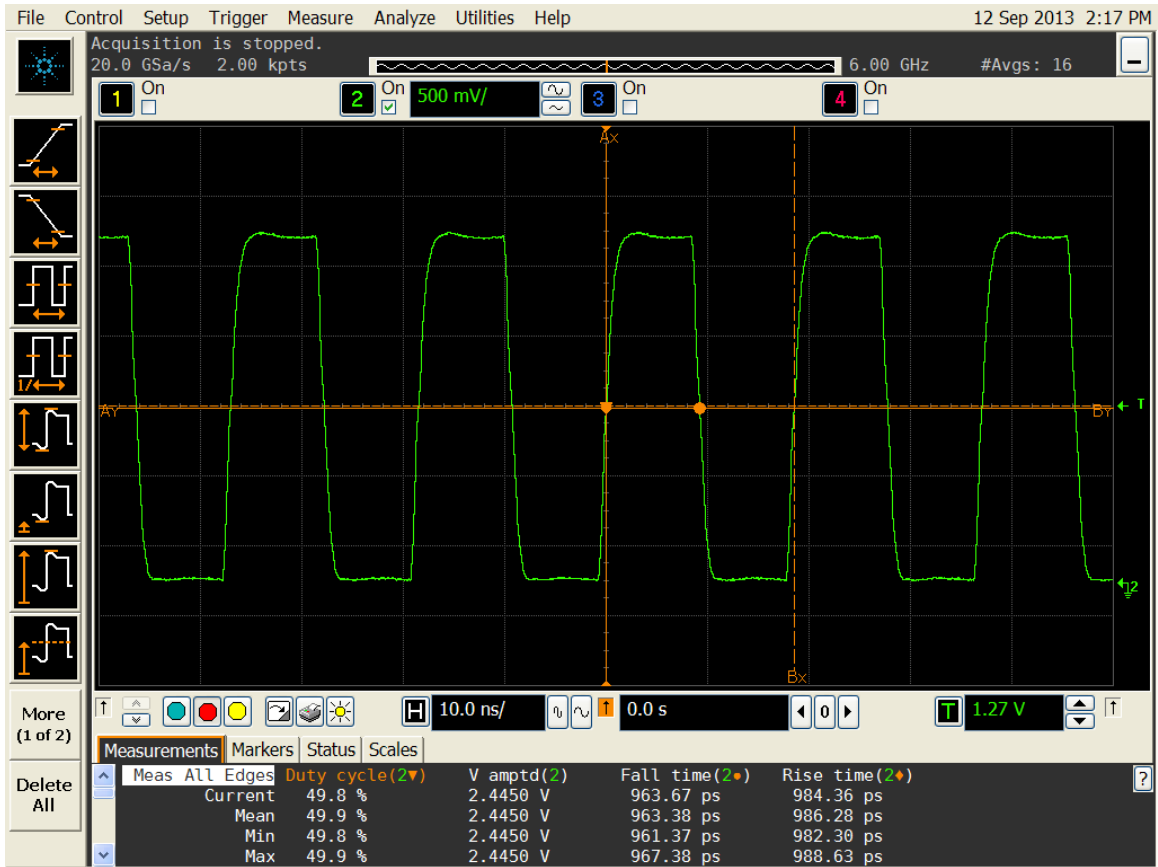



Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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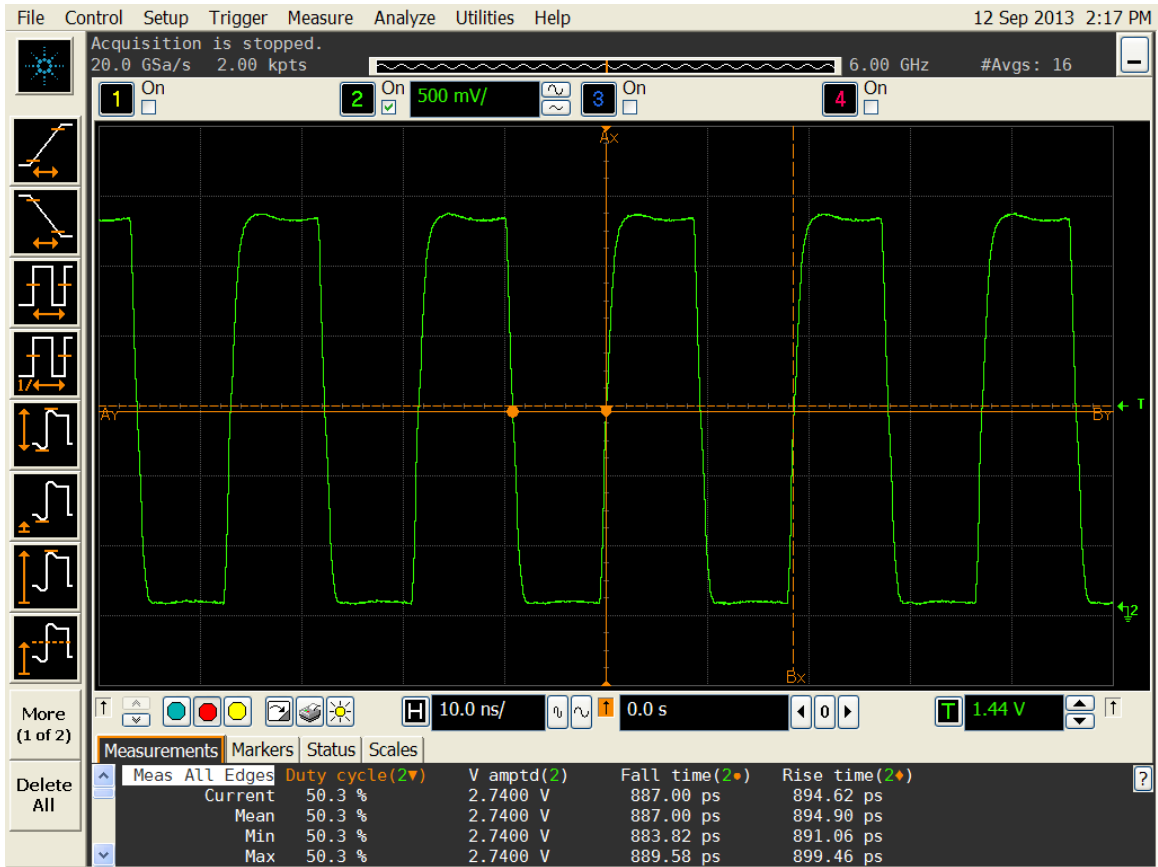



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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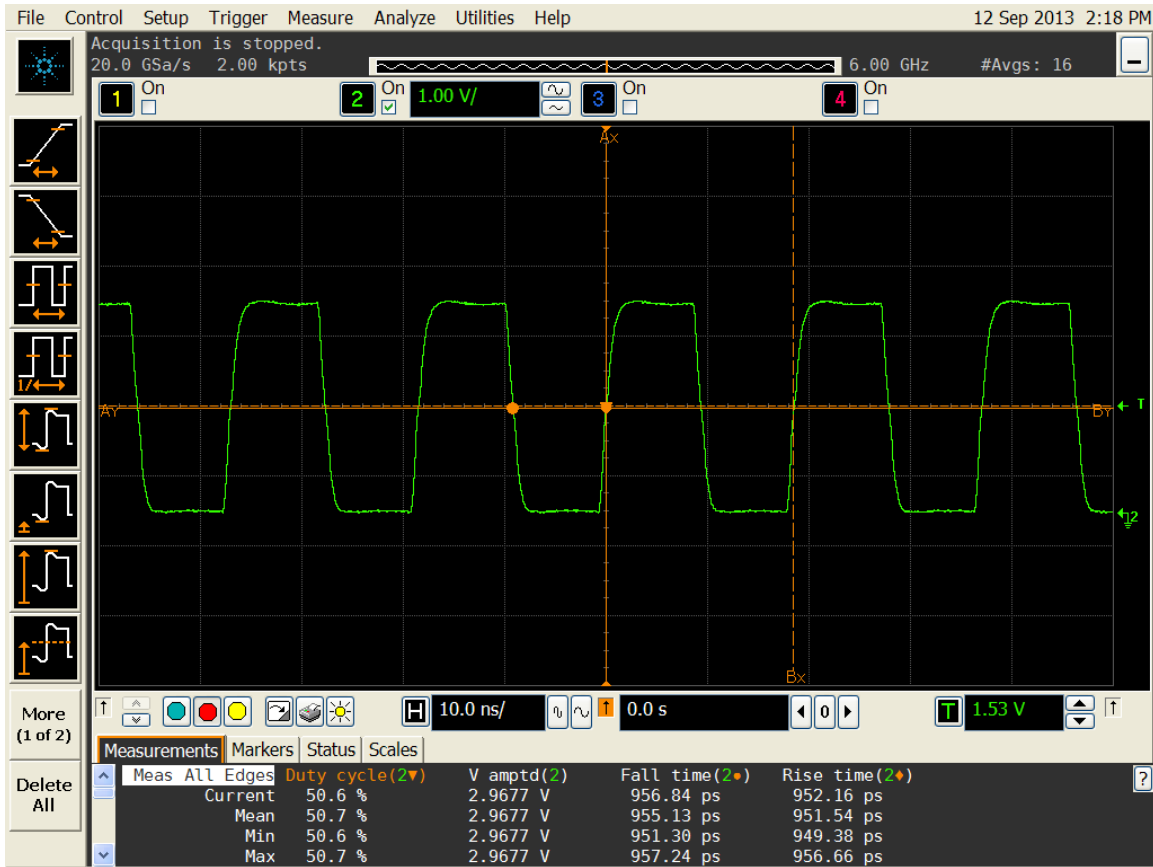


Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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

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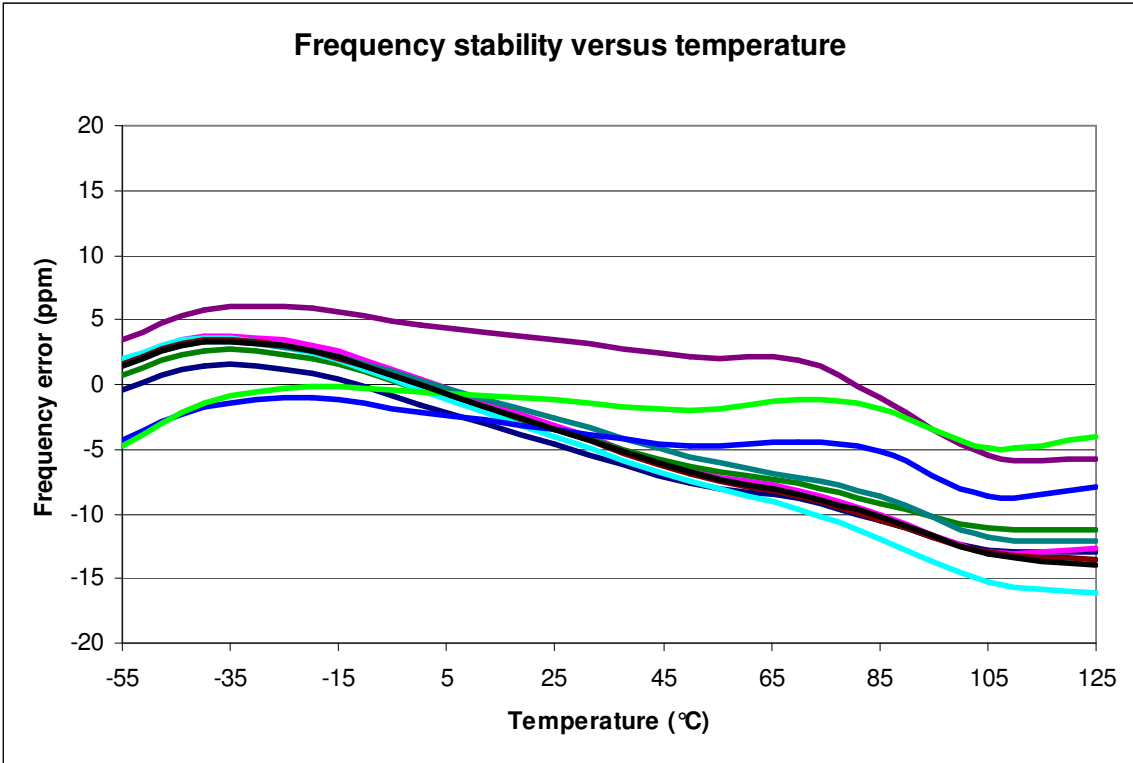


Figure 6. Frequency stability* versus temperature

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

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