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|  | Title: | Performance Report SiT1602B, 66MHz | | | |
| | Type: | Performance report | Rev: | 1.0 | |
| | Orig: | | Date: | Mar 31, 2014 | |

This report contains sample performance data for SiT1602B-66MHz.

Conditions:

- Frequency 66 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 | 0.57 | 0.62 | 0.63 | 0.63 | 0.64 |
| Random Phase jitter (12kHz - 20MHz) | ps, rms | 1.28 | 1.37 | 1.37 | 1.37 | 1.36 |
| Period jitter | ps, rms | 1.82 | 1.59 | 1.56 | 1.57 | 1.53 |
| Period jitter (10,000 cycles) | ps, pk-pk | 13.6 | 11.9 | 11.8 | 11.4 | 11.1 |
| Duty cycle | % | 49.9 | 49.7 | 50.2 | 50.6 | 51.0 |
| Rise time (20% - 80%) | ns | 1.25 | 1.03 | 0.95 | 1.00 | 0.94 |
| Fall time (80% - 20%) | ns | 1.26 | 0.99 | 0.92 | 0.99 | 0.94 |
| Amplitude | V | 1.77 | 2.44 | 2.73 | 2.97 | 3.25 |
| Current consumption (no load, output enabled) | mA | 4.17 | 4.45 | 4.59 | 4.65 | 4.80 |
| Current consumption (no load, output disabled) | mA | 3.50 | 3.56 | 3.62 | 3.66 | 3.74 |

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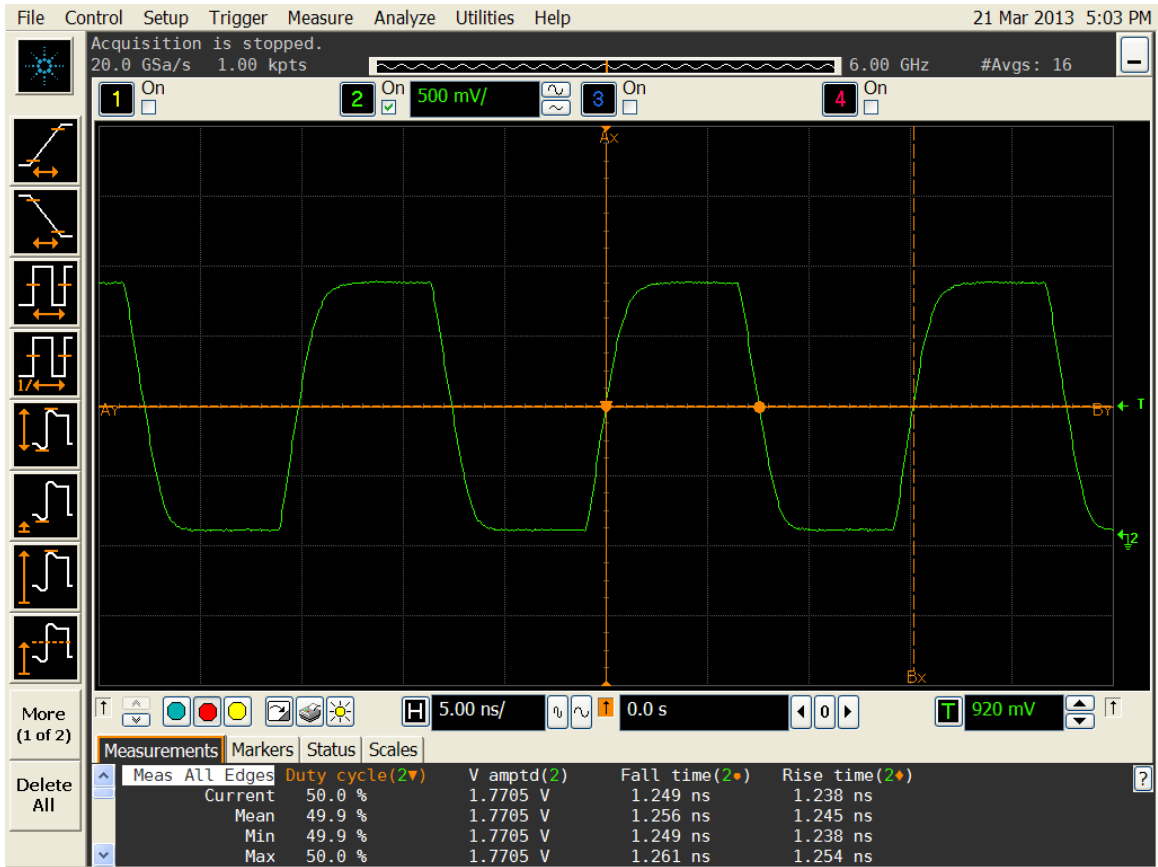



Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

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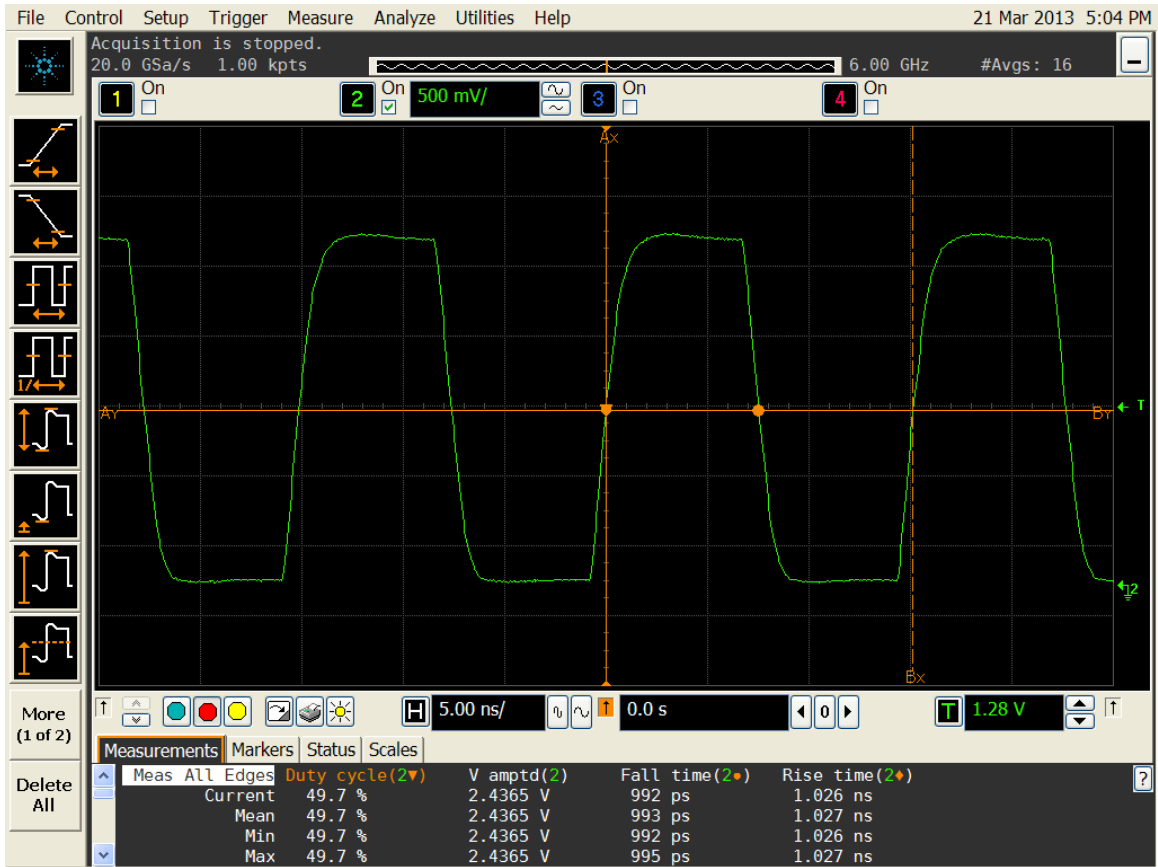



Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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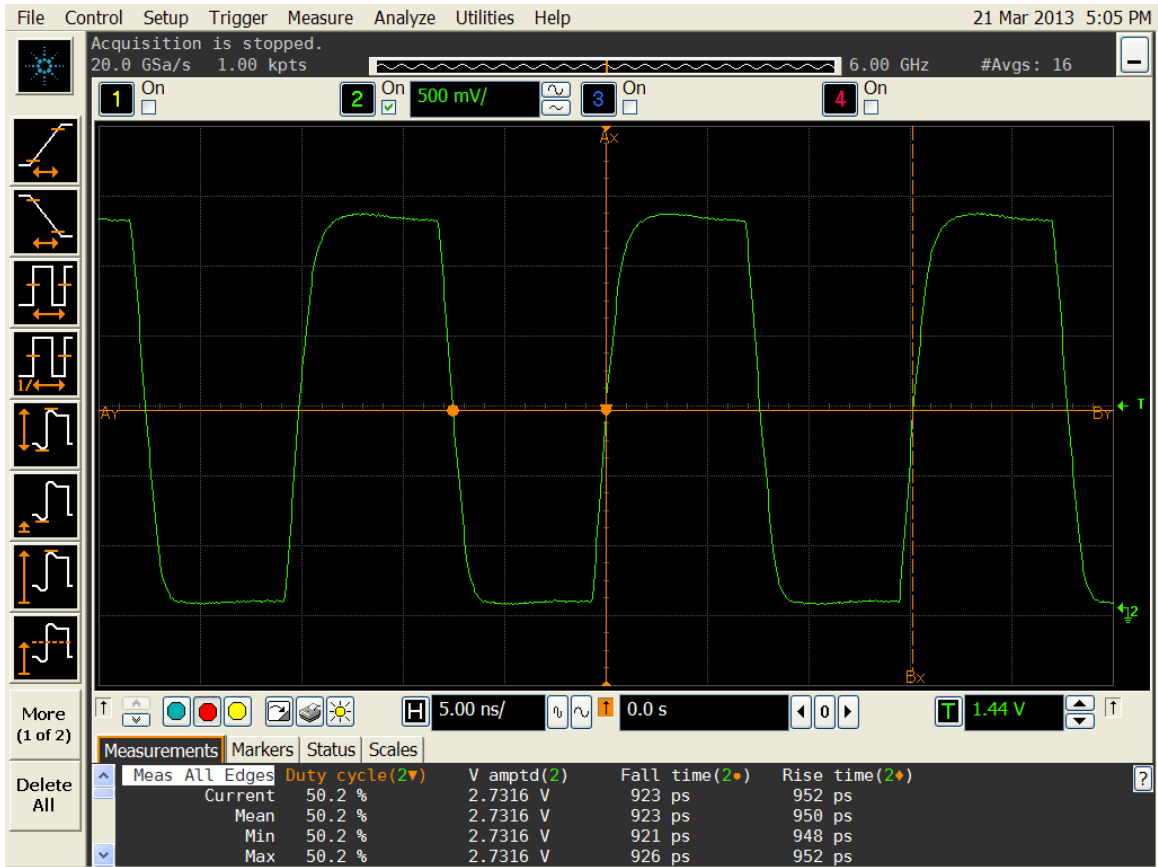



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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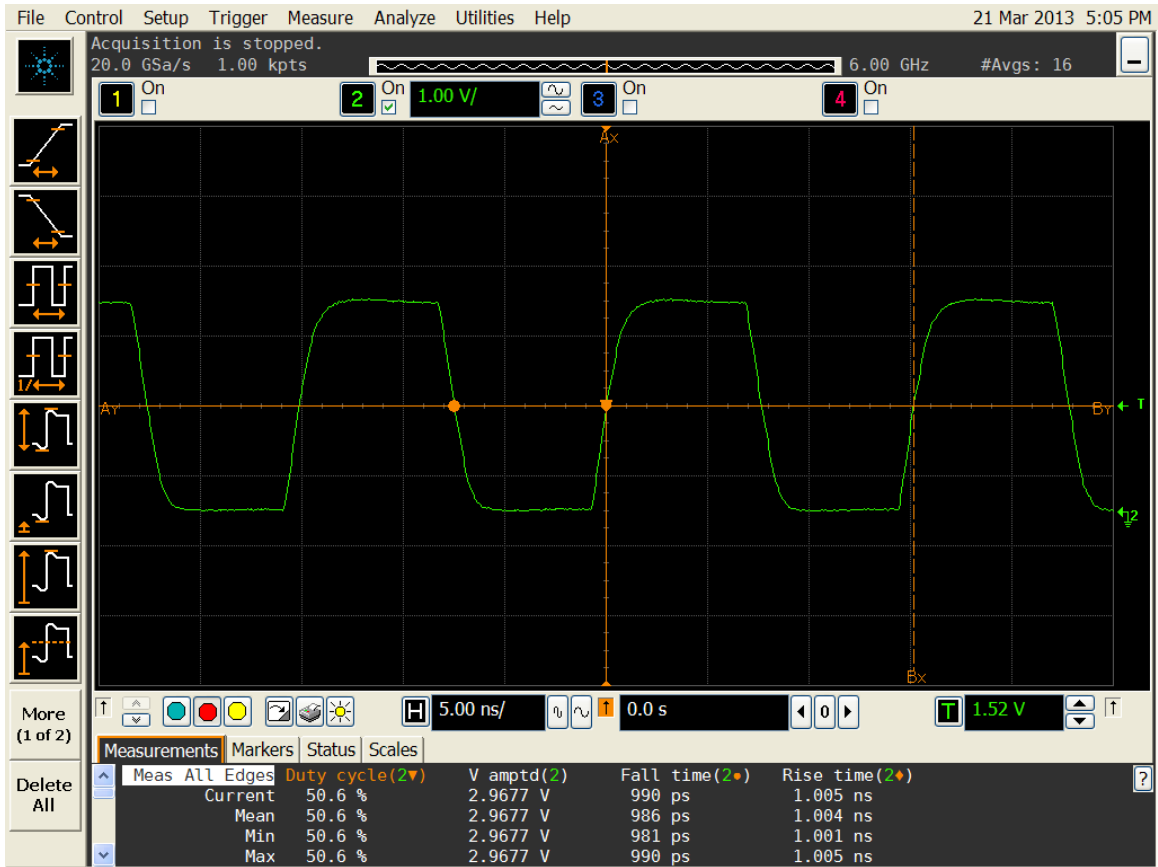



Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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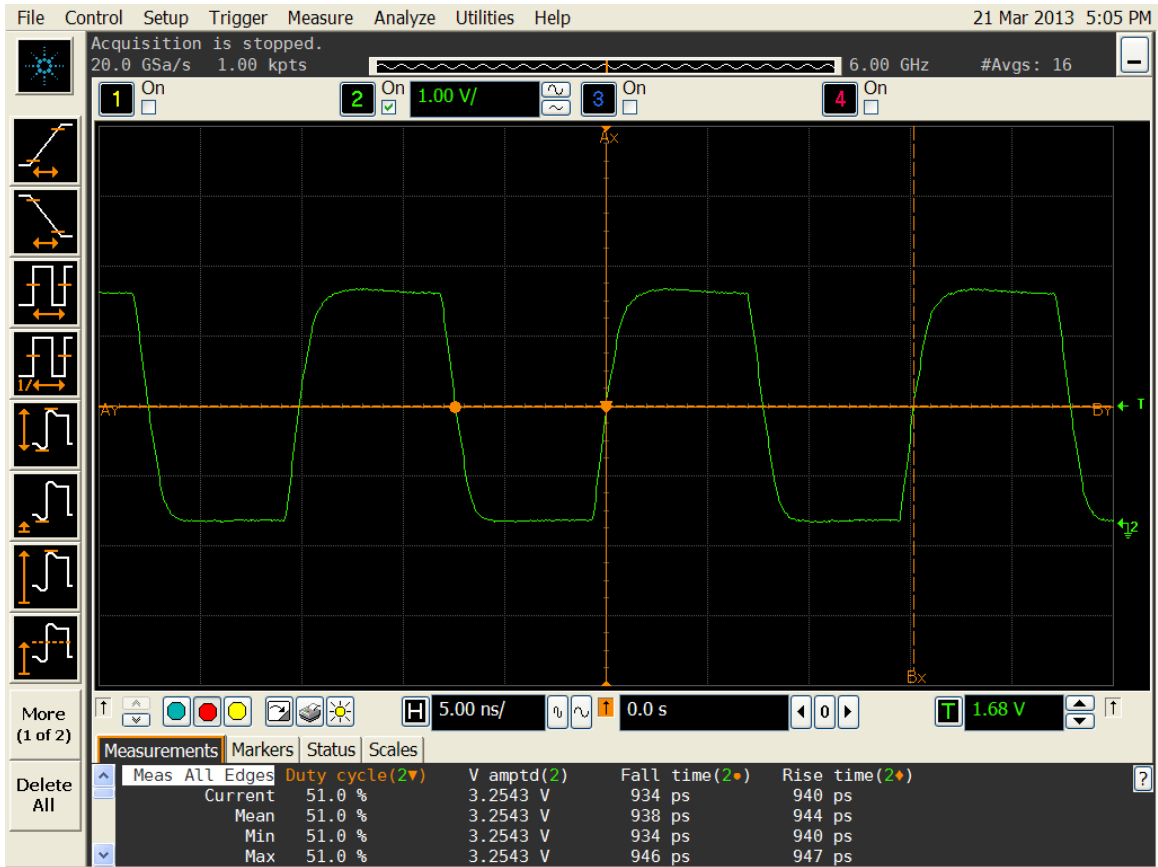


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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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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