| Si Time [®] | Title: | Performance Report SiT2024B, 18.432MHz | | |
|-----------------------------|--------|--|-------|--------------|
| | Туре: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Nov 21, 2014 |

This report contains sample performance data for SiT2024B-18.432MHz.

Conditions:

- Frequency 18.432 MHz
- Vdd 1.8V, 2.5V, 2.8V, 3.0V, 3.3V
- Temperature 25℃
- Termination:
 - No load for IDD
 - $\circ~~50\Omega$ to GND for phase noise
 - $\circ \quad 15 pF \text{ for other tests} \quad$

Equipment:

- Agilent DSA90604 oscilloscope (6GHz, 20Gsps)
 - o Period jitter, waveform, rise/fall time, duty cycle, amplitude
- Agilent E5052B Signal Source Analyzer
 - Phase noise, integrated phase jitter
- Power supply current
 - Agilent 34401A DMM

Data:

- Random Phase jitter, Period Jitter, Duty cycle, Rise/Fall time, Amplitude, Idd
- Output waveforms
- Frequency stability versus temperature

| Parameter | Units | Voltage | | | | |
|--|-----------|---------|-------|-------|-------|-------|
| | Units | 1.8 V | 2.5 V | 2.8 V | 3.0 V | 3.3 V |
| Random Phase jitter (900kHz - 5MHz) | ps, rms | 0.51 | 0.53 | 0.52 | 0.52 | 0.53 |
| Random Phase jitter (12kHz - 5MHz) | ps, rms | 1.33 | 1.31 | 1.29 | 1.28 | 1.28 |
| Random Phase jitter (900kHz – 18.432MHz)* | ps, rms | 0.84 | 0.87 | 0.85 | 0.85 | 0.85 |
| Random Phase jitter (12kHz – 18.432MHz)* | ps, rms | 1.49 | 1.48 | 1.45 | 1.44 | 1.45 |
| Period jitter | ps, rms | 2.51 | 1.89 | 1.79 | 1.79 | 1.73 |
| Period jitter (10,000 cycles) | ps, pk-pk | 17.9 | 13.7 | 13.5 | 13.0 | 12.6 |
| Duty cycle | % | 50.0 | 49.9 | 50.1 | 50.2 | 50.3 |
| Rise time (20% - 80%) | ns | 1.23 | 1.00 | 0.91 | 0.98 | 0.91 |
| Fall time (80% - 20%) | ns | 1.26 | 0.97 | 0.90 | 0.97 | 0.92 |
| Amplitude | V | 1.78 | 2.48 | 2.77 | 3.02 | 3.30 |
| Current consumption (no load, output enabled) | mA | 3.56 | 3.67 | 3.72 | 3.75 | 3.80 |
| Current consumption (no load, output disabled) | mA | 3.41 | 3.49 | 3.54 | 3.58 | 3.66 |

Table 1. Performance data

*Calculated by extending the noise floor of the phase noise from 5 MHz to 18.432 MHz

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

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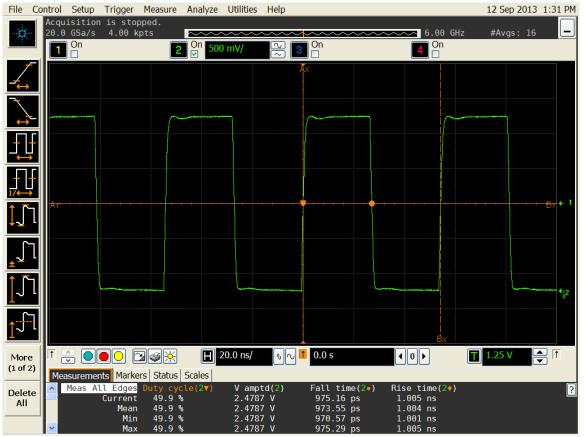


Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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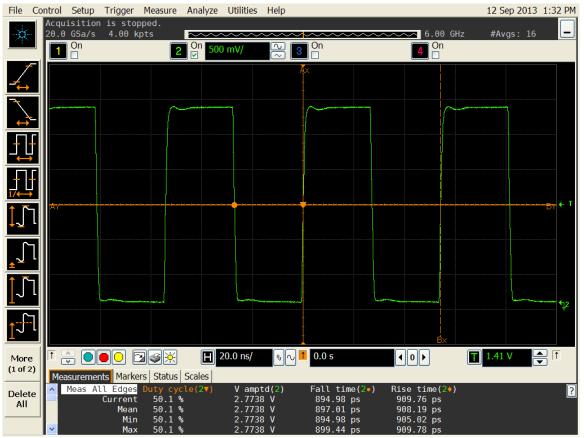


Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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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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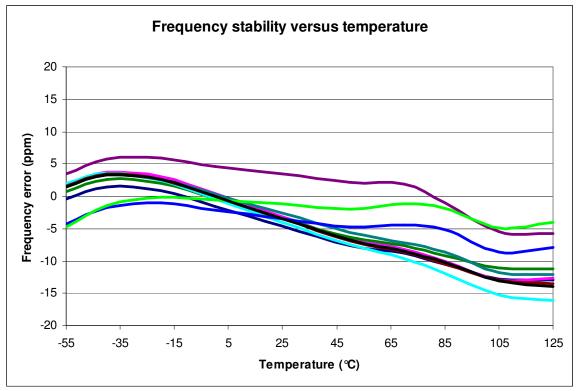


Figure 6. Frequency stability* versus temperature

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