This report contains sample performance data for SiT8008B-54MHz.

**Conditions:**
- Frequency 54 MHz
- Vdd 1.8V, 2.5V, 2.8V, 3.0V, 3.3V
- Temperature 25°C
- Termination:
  - No load for IDD
  - 50Ω to GND for phase noise
  - 15pF for other tests

**Equipment:**
- Agilent DSA90604 oscilloscope (6GHz, 20Gsps)
  - 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

**Table 1. Performance data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>1.8 V</th>
<th>2.5 V</th>
<th>2.8 V</th>
<th>3.0 V</th>
<th>3.3 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random Phase jitter (900kHz - 20MHz)</td>
<td>ps, rms</td>
<td>0.65</td>
<td>0.68</td>
<td>0.69</td>
<td>0.69</td>
<td>0.69</td>
</tr>
<tr>
<td>Random Phase jitter (12kHz - 20MHz)</td>
<td>ps, rms</td>
<td>1.42</td>
<td>1.43</td>
<td>1.45</td>
<td>1.45</td>
<td>1.45</td>
</tr>
<tr>
<td>Period jitter</td>
<td>ps, rms</td>
<td>1.79</td>
<td>1.49</td>
<td>1.45</td>
<td>1.47</td>
<td>1.44</td>
</tr>
<tr>
<td>Period jitter (10,000 cycles)</td>
<td>ps, pk-pk</td>
<td>13.3</td>
<td>11.6</td>
<td>11.8</td>
<td>11.6</td>
<td>11.2</td>
</tr>
<tr>
<td>Duty cycle</td>
<td>%</td>
<td>49.9</td>
<td>49.8</td>
<td>50.2</td>
<td>50.5</td>
<td>50.9</td>
</tr>
<tr>
<td>Rise time (20% - 80%)</td>
<td>ns</td>
<td>1.24</td>
<td>1.02</td>
<td>0.92</td>
<td>0.98</td>
<td>0.93</td>
</tr>
<tr>
<td>Fall time (80% - 20%)</td>
<td>ns</td>
<td>1.26</td>
<td>0.98</td>
<td>0.90</td>
<td>0.95</td>
<td>0.92</td>
</tr>
<tr>
<td>Amplitude</td>
<td>V</td>
<td>1.77</td>
<td>2.45</td>
<td>2.73</td>
<td>2.95</td>
<td>3.27</td>
</tr>
<tr>
<td>Current consumption (no load, output enabled)</td>
<td>mA</td>
<td>4.01</td>
<td>4.23</td>
<td>4.35</td>
<td>4.41</td>
<td>4.53</td>
</tr>
<tr>
<td>Current consumption (no load, output disabled)</td>
<td>mA</td>
<td>3.46</td>
<td>3.53</td>
<td>3.58</td>
<td>3.63</td>
<td>3.70</td>
</tr>
</tbody>
</table>
Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V
Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V
Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V
Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V
Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V
Figure 6. Frequency stability* versus temperature, 1.8 V

*Please note that frequency stability in SiTime devices is not depended on output frequency.
Figure 7. Frequency stability versus temperature, 2.5 V
Figure 8. Frequency stability versus temperature, 2.8 V
Figure 9. Frequency stability versus temperature, 3.0 V
Figure 10. Frequency stability versus temperature, 3.3 V