


|   |               |  |              |              |
|---|---------------|--|--------------|--------------|
|  | <b>Title:</b> | Performance Report SiT9120, 148.35164MHz |              |              |
|   | <b>Type:</b>  | Performance report                       | <b>Rev:</b>  | 1.0          |
|   | <b>Orig:</b>  |  | <b>Date:</b> | May 07, 2012 |

**This report contains sample performance data for SiT9120 - 148.35164MHz with LVDS output.**

**Conditions:**

- Frequency 148.35164 MHz
- Vdd 2.5V, 3.3V
- Room temperature
- Termination:
  - o 100Ω between both outputs; AC coupled.

**Equipment:**

| Equipment                            | Measurement / Purpose                                     |
|--------------------------------------|---|
| Agilent DSA90604A (6GHz, 20Gsps)     | Period jitter, Differential voltage swing, Rise/fall time |
| Agilent 5052B Signal Source Analyzer | Phase noise, integrated phase jitter                      |
| Agilent 34980A                       | Power supply current                                      |
| Agilent E3631A                       | Power supply  |

**Test setup:**

The test setup for measuring period jitter and waveform parameters is shown in Figure 1. In this setup both DUT outputs are AC coupled and connected to oscilloscope inputs by 50-ohm coax cables.

Differential measurement with oscilloscope:

For jitter measurements, both DUT outputs are connected to scope channels. Signals from inputs are subtracted inside the oscilloscope. All measurements are applied to the differential waveform.

Phase noise.

For phase noise measurements, differential signal is converted to single-ended using impedance matching transformer.

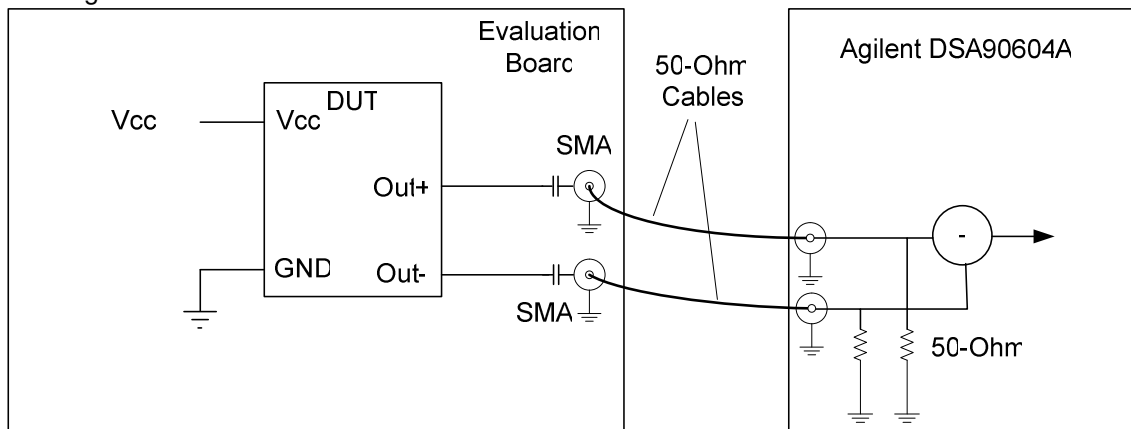


Figure 1. Test setup #1 for measuring period jitter, waveform parameters (rise/fall times, differential swing) and IDD.

|                |               |   |              |                     |
|----------------|---------------|---|--------------|---------------------|
| <b>SiTime™</b> | <b>Title:</b> | <b>Performance Report SiT9120, 148.35164MHz</b> |              |                     |
|                | <b>Type:</b>  | <b>Performance report</b>                       | <b>Rev:</b>  | <b>1.0</b>          |
|                | <b>Orig:</b>  |   | <b>Date:</b> | <b>May 07, 2012</b> |

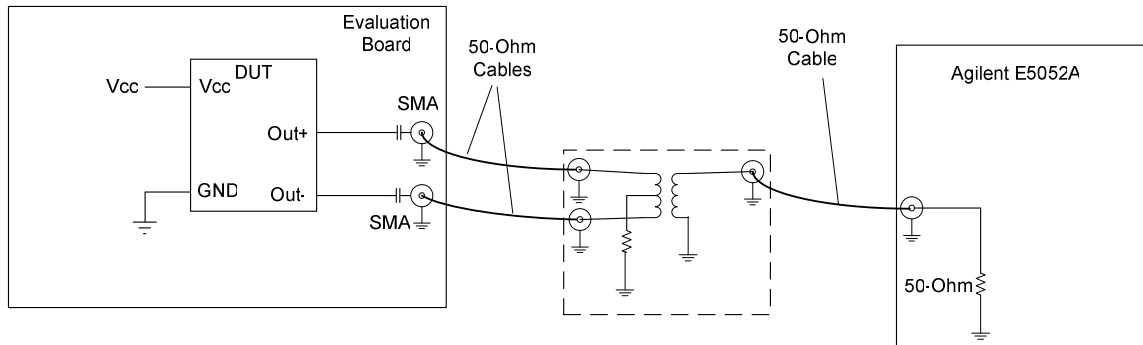



Figure 2. Test setup #2 for measuring phase noise.

**Data:**

- Random Phase jitter
- Period jitter
- Idd

| Parameter                           | Units   | Voltage |      |
|-------------------------------------|---------|---------|------|
|                                     |         | 2.5V    | 3.3V |
| Random Phase jitter (12kHz - 20MHz) | ps, rms | 0.57    | 0.58 |
| Period jitter                       | ps, rms | 1.45    | 1.22 |
| Current consumption (no load)       | mA      | 44.5    | 44.5 |

Table 1. Performance data

|   |               |  |              |              |
|---|---------------|--|--------------|--------------|
|  | <b>Title:</b> | Performance Report SiT9120, 148.35164MHz |              |              |
|   | <b>Type:</b>  | Performance report                       | <b>Rev:</b>  | 1.0          |
|   | <b>Orig:</b>  |  | <b>Date:</b> | May 07, 2012 |

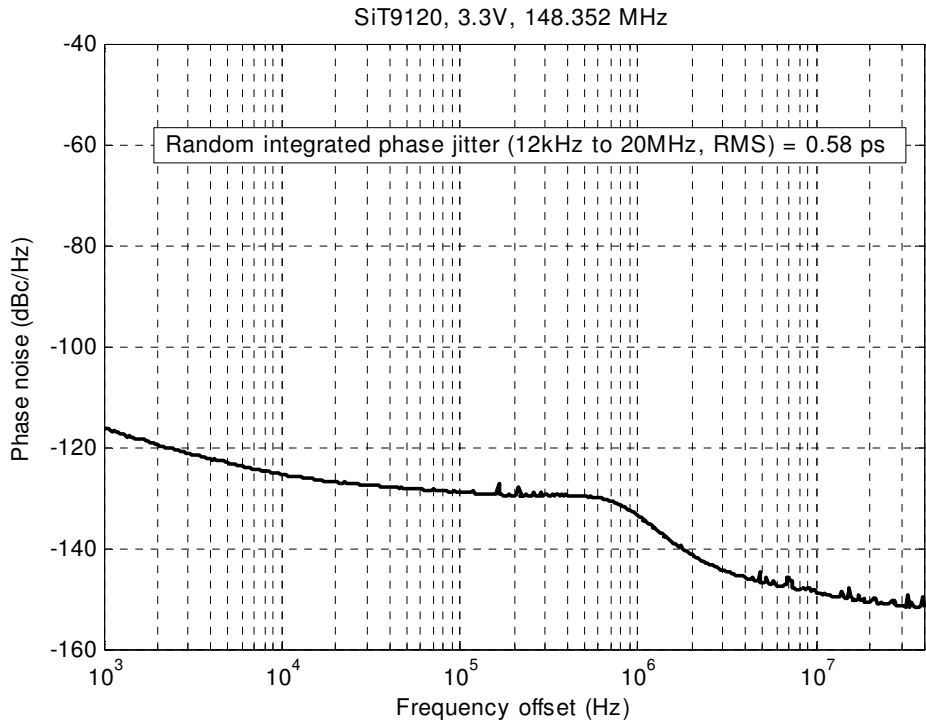



Figure 3. Phase noise plot 3.3V

|   |               |  |              |              |
|---|---------------|--|--------------|--------------|
|  | <b>Title:</b> | Performance Report SiT9120, 148.35164MHz |              |              |
|   | <b>Type:</b>  | Performance report                       | <b>Rev:</b>  | 1.0          |
|   | <b>Orig:</b>  |  | <b>Date:</b> | May 07, 2012 |

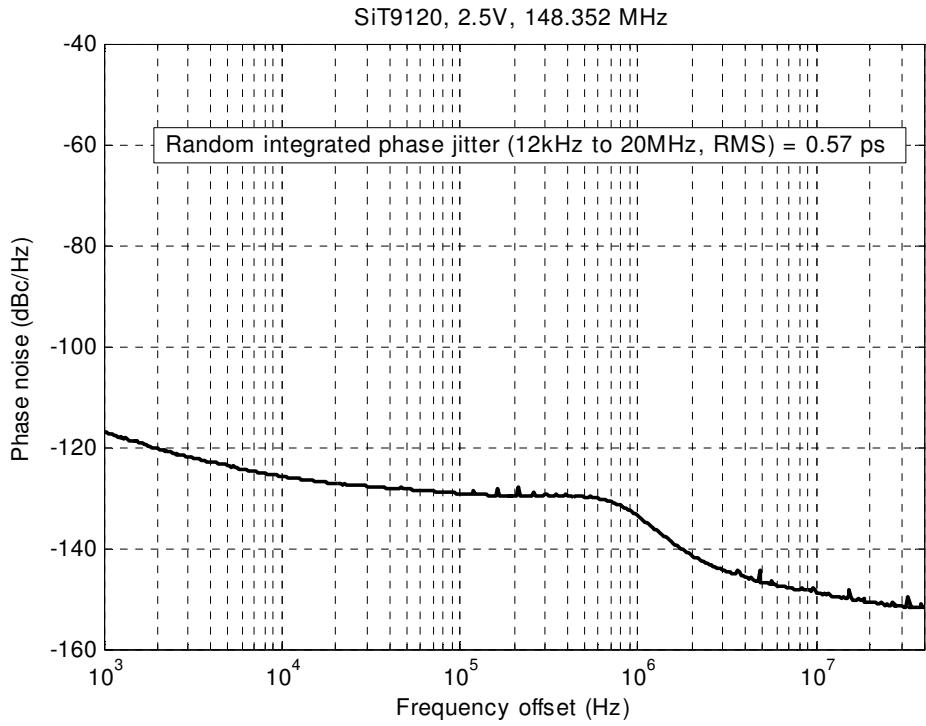



Figure 4. Phase noise plot 2.5V

|   |               |  |              |              |
|---|---------------|--|--------------|--------------|
|  | <b>Title:</b> | Performance Report SiT9120, 148.35164MHz |              |              |
|   | <b>Type:</b>  | Performance report                       | <b>Rev:</b>  | 1.0          |
|   | <b>Orig:</b>  |  | <b>Date:</b> | May 07, 2012 |

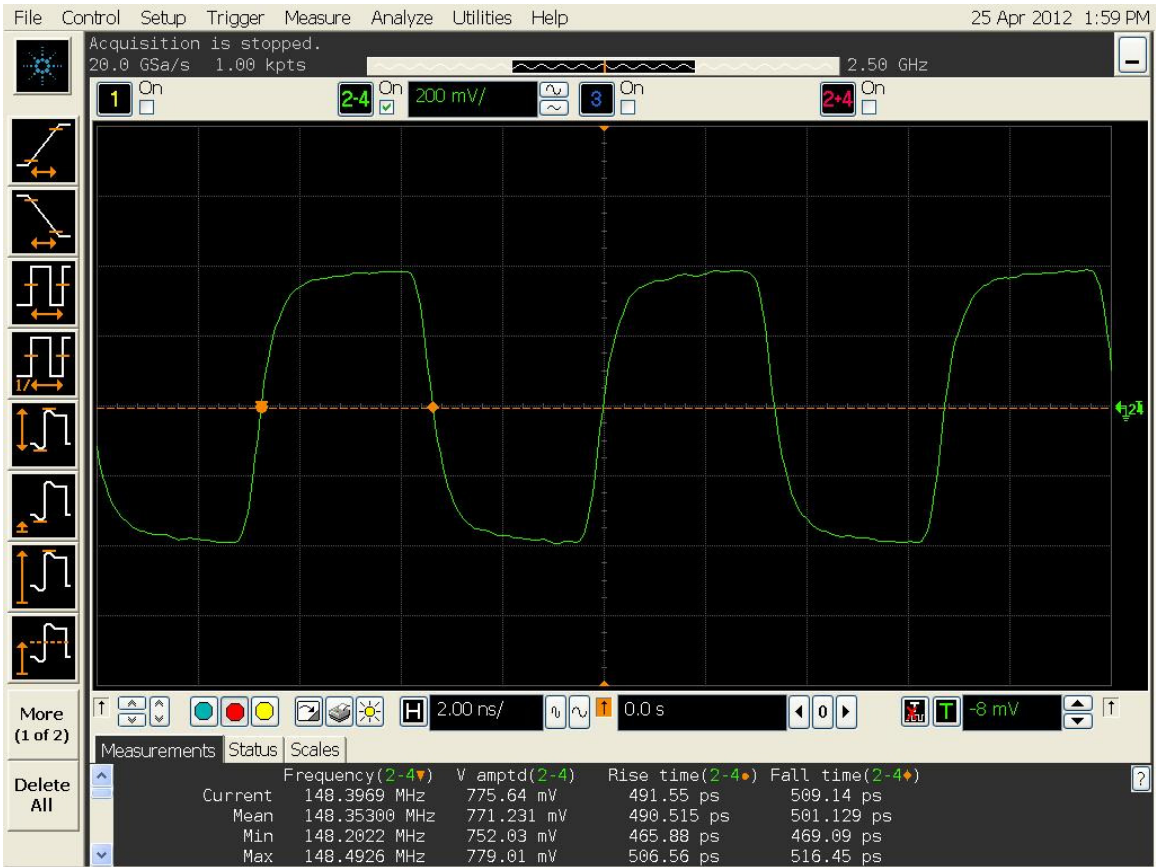


Figure 5. Waveform 3.3V

|                |               |   |              |                     |
|----------------|---------------|---|--------------|---------------------|
| <b>SiTime™</b> | <b>Title:</b> | <b>Performance Report SiT9120, 148.35164MHz</b> |              |                     |
|                | <b>Type:</b>  | <b>Performance report</b>                       | <b>Rev:</b>  | <b>1.0</b>          |
|                | <b>Orig:</b>  |   | <b>Date:</b> | <b>May 07, 2012</b> |

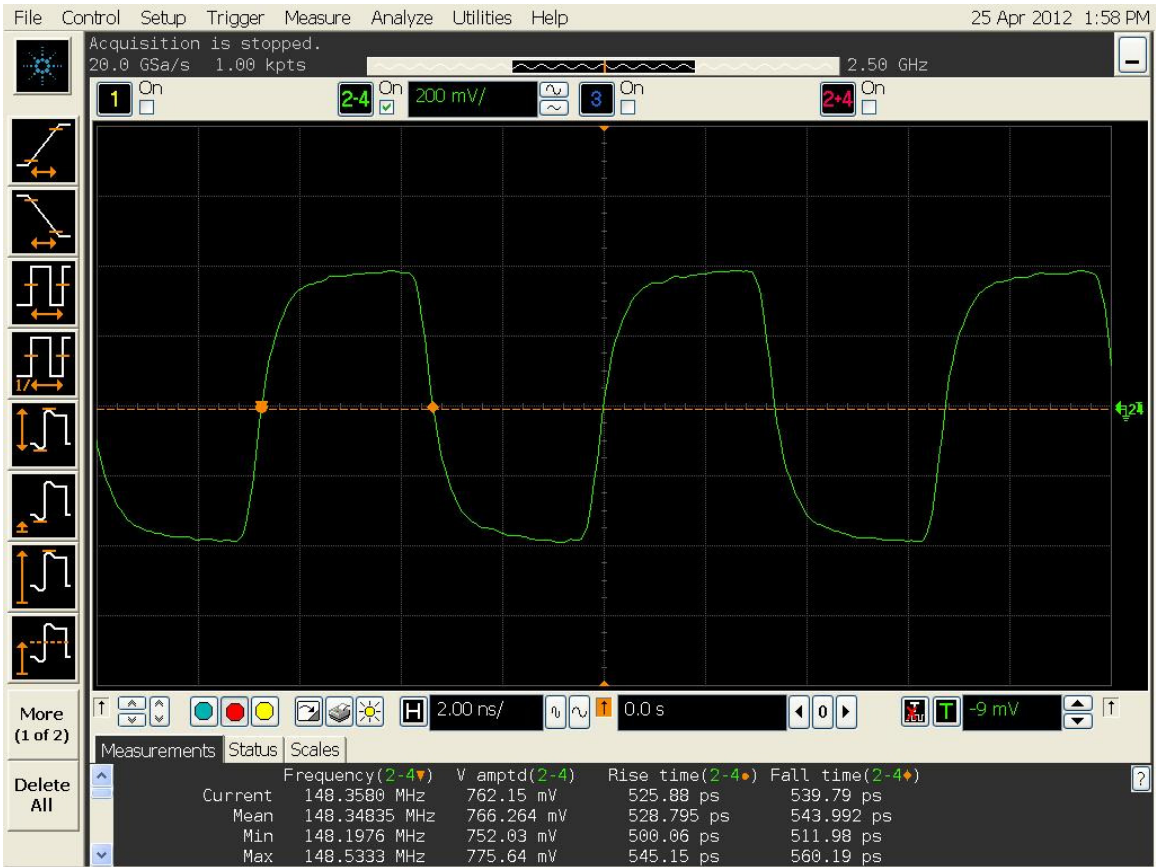


Figure 6. Waveform 2.5V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.