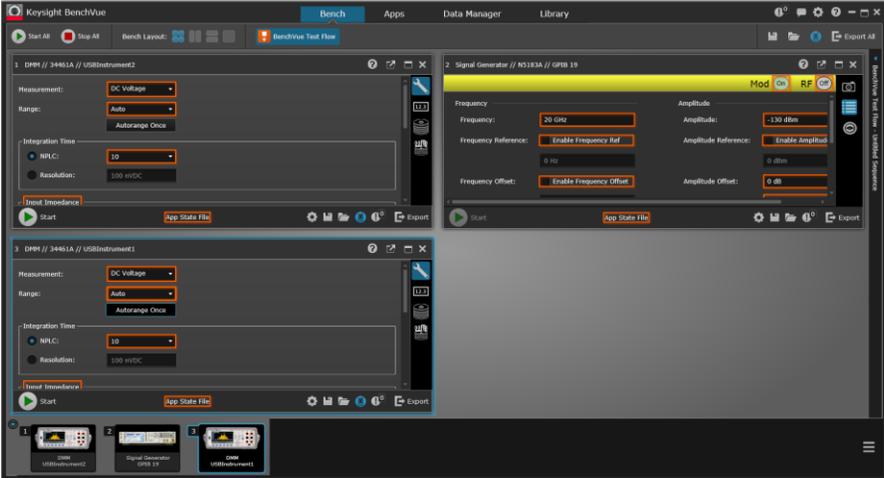


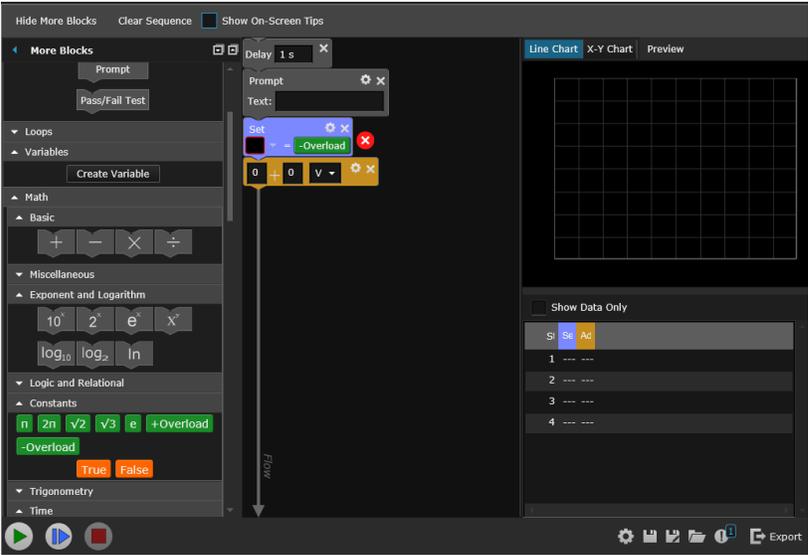
BenchVue Overview

Keysight BenchVue software for the PC eliminates many of the issues around bench testing. By making it simple to connect, control instruments, and automate test sequences you can quickly move past the test development phase and access results faster than ever before. Dedicated instrument apps allow you to quickly configure the most commonly used measurements and setups for each instrument family. Additionally, Test Flow enabled apps help you drastically shorten your development of automated programs and further streamline your workflow [1].

1. Make sure all equipment needed are connected to the software.



2. Create your testflow by clicking on BenchVue and dragging the blocks to the sequence.



3. If you need more information on each block, check "Show-On Screen Tips".

The screenshot shows a LabVIEW test flow with several blocks and callouts:

- 1 - Set Frequency:** Callout: "Sets the value of the Instrument Property associated with this block." Value: 1 GHz.
- 1 - Set RF:** Callout: "Sets the value of the Instrument Property associated with this block." Value: On.
- 1 - Sweep Amplitude:** Callout: "Configures loop parameters by specifying Begin, End, and Increment values. With each new value, the individual Blocks contained within the loop are executed." Values: From: -50 dBm, To: 15 dBm, By: 5 dBm.
- 2 - Set Measurement Type:** Value: DC Voltage.
- 2 - Set DC Voltage: Range:** Value: 100 mVDC.
- 2 - Get Measurement Value:** Callout: "Gets and returns the value of the Instrument Property associated with this Block." Value: 8.198 mVDC.
- 2 - Set DC Voltage: Auto Zero:** Value: On.
- Export Data:** Callout: "Export Sequence captured data." File Name: Voltage 0, Export Target: MATLAB, Export Path: \\ad.uillinois.edu\engr\instructional...
- 1 - Set RF:** Value: On.

The right side of the image shows a Line Chart (X-Y Chart) with a table of data points:

Str	1 - Sweep	2 - Get Measu
3	-50 dBm	0 VDC
4	-45 dBm	0 VDC
5	-40 dBm	0 VDC
6	-35 dBm	0 VDC
7	-30 dBm	0 VDC
8	-25 dBm	0 VDC
9	-20 dBm	0 VDC
10	-15 dBm	0 VDC
11	-10 dBm	0 VDC

4. Display the data on the X-Y chart with correct axis value chosen.

The screenshot shows a BenchVue Test Flow window titled "BenchVue Test Flow - Lab1 *". The test flow is completed, and the results are displayed in a table and a graph.

The test flow blocks include:

- 2 - Set Frequency:** 1 GHz
- 2 - Set Amplitude:** -30 dBm
- 2 - Set RF:** On
- 2 - Sweep Amplitudes:** From: -30 dBm, To: 15 dBm, By: 1 dBm
- 1 - Get Measurement Type:** DC Voltage
- 1 - Get Measurement Value:** 6.263 mVDC

The graph shows a curve of DC Voltage (mVDC) vs. Sweep Amplitude (dBm). The x-axis ranges from -30 dBm to 15 dBm, and the y-axis ranges from 151 μV to 6.263 mV. The data points are as follows:

Str	2 - Sweep	1 - Get Mea	1 - Get Measur	Time
45	11 dBm	DC Voltage	3.256 mVDC	00:00:12.7900000
46	12 dBm	DC Voltage	4.038 mVDC	00:00:13.0940000
47	13 dBm	DC Voltage	5.015 mVDC	00:00:13.4100000
48	14 dBm	DC Voltage	6.225 mVDC	00:00:13.7000000
49	15 dBm	DC Voltage	6.263 mVDC	00:00:14.0180000
50	15 dBm	---	---	00:00:14.1240000

The status bar at the bottom indicates "Last Saved Data: SequenceDataLog_2017-11-07_14-32-54".

5. Detailed function for all the blocks can be found in the application notes [2].

Reference:

[1] Keysight Technologies, *BenchVue Software 2017 (BV0000A) Control. Automate. Simplify*, 2017.

[2] Keysight Technologies, *Using BenchVue Test Flow to Create Test Sequences without Programming*, 2017.