

Using the ATE Demo Excel Macro with the 7000 Series

How to install the communication library and the VISA drivers, open the ATE demo workbook, point it at a 7000 Series phase noise analyzer over LAN or USB, and run a phase noise measurement from Microsoft Excel.

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1 Using the ATE Demo Excel Macro

This application note provides instructions to set up and use the ATE demo, which can be downloaded as an archive from the Software & Drivers page. The demo drives phase noise measurements on the BNC 7000 Series from within Microsoft Excel through the BNC communication COM library.

[Download the full note \(PDF\)](#)

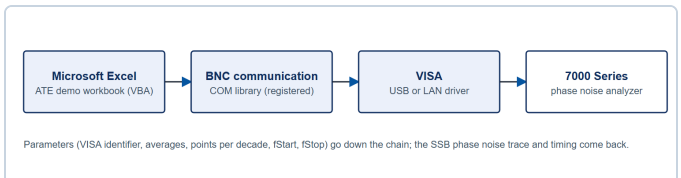
2 Requirements

The following components must be installed as described:

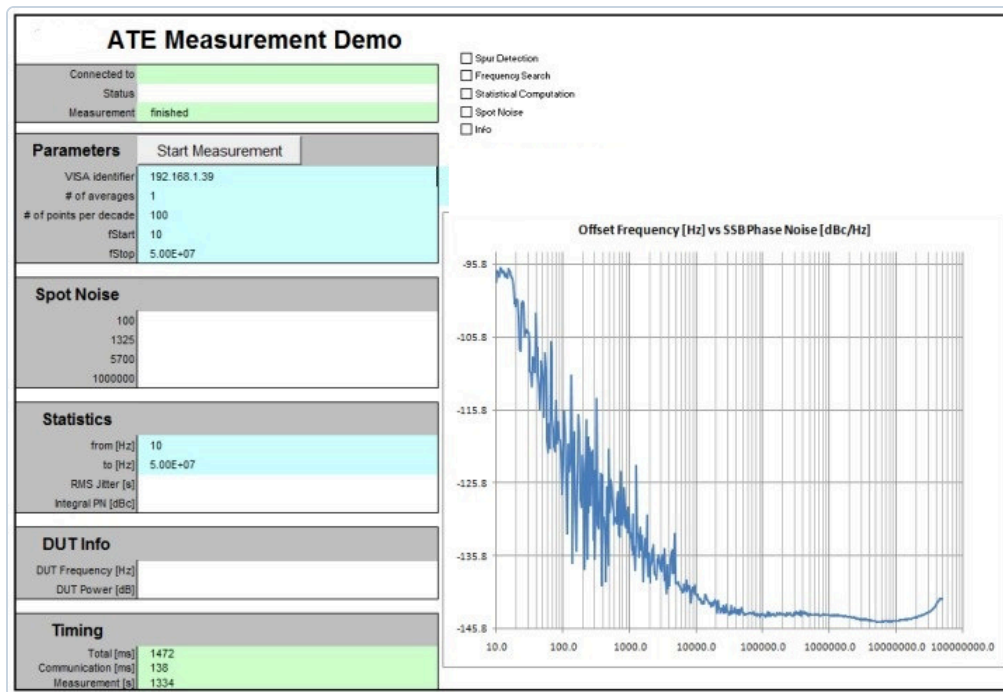
- **VISA shared components:** Install the PNT GUI and check the option to install USB drivers. This

automatically installs the required VISA drivers.

- **BNC communication COM library:** The COM library is necessary to access the drivers from within VBA. Extract the downloaded archive. In the COM library folder, run the registration batch file with administrative rights (right click, then select Run as administrator). The batch file registers the library, which is located in the same folder.
- **Microsoft Excel:** Installed on the computer.



- **SCHEMATIC Figure 2.** The software chain from the Excel workbook through the BNC communication COM library and the VISA driver to the 7000 Series over USB or LAN.



- **MEASURED** **Figure 1.** The ATE Measurement Demo workbook after a run. The Parameters panel holds the VISA identifier (192.168.1.39), 1 average, 100 points per decade, fStart 10 Hz and fStop 50 MHz; the Timing panel reports 1,472 ms in total, of which 138 ms is communication and 1,334 ms is measurement; the plot shows SSB phase noise against offset frequency from 10 Hz to 100 MHz.

3 Using the Macro

1. **Open the workbook.** Double click the ATE demo workbook. If macros are not enabled by default, Excel reports that the macro in this file has been disabled; enable it. Excel can also be configured to accept macros from a trusted location.
2. **Review the interface.** After startup, the basic user interface is displayed. The blue background cells are user inputs.
3. **Set the VISA identifier.**
 - If the PNT is connected over Ethernet, the VISA identifier is the IP.
 - For USB connections, the VISA identifier is 'USB-<serial>', with the serial number of the analyzer.
4. **Start the measurement.** To start the measurement, click the measurement button.

Note

To optimize for speed, some of the measurement stages can be turned off. Keep in mind that the frequency search has to be activated for the first measurement of a newly connected DUT.

4 Talk to an application engineer

If you are automating phase noise testing on a 7000 Series analyzer, our engineers can walk through the ATE demo setup with you and adapt it to your test bench. Request a quote through our quote request page, or reach us at info@berkeleynucleonics.com or 800-234-7858.

Ask now →

Chat with our assistant and get an answer in seconds.

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