

Agilent ENA Series Network Analyzer

ENA Data Transfer Program Operation Manual

Rev.01.05



October 2011

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Sample Program

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1. General information

Overview of the program

This program (a VBA macro for Microsoft Excel®) transfers the measurement data and the display image from the ENA to a PC.

Supported model and firmware

Model	Firmware
E5061B Network Analyzer	Rev. A.02.00 or later
E5071C Network Analyzer	Rev. A.10.05 or later
E5072A Network Analyzer	Rev. A.01.03 or later
E507xB Network Analyzer	Rev. A.06.51 or later
E506xA Network Analyzer	Rev. A.03.01 or later

Required equipment

- Personal computer
 - * Microsoft Excel® installed (Excel® 2007)
 - * Agilent I/O Libraries Suite 15 or higher installed
 - * Excel Macro File: ENA_DataTransfer_macro_0105.xlsm
- Connection cable (Use either one of the following cables)
 1. Agilent 82357A or 82357B USB/GPIB interface
 2. USB/USB interface
 3. LAN cable (cross or straight cable depending on the connection method)

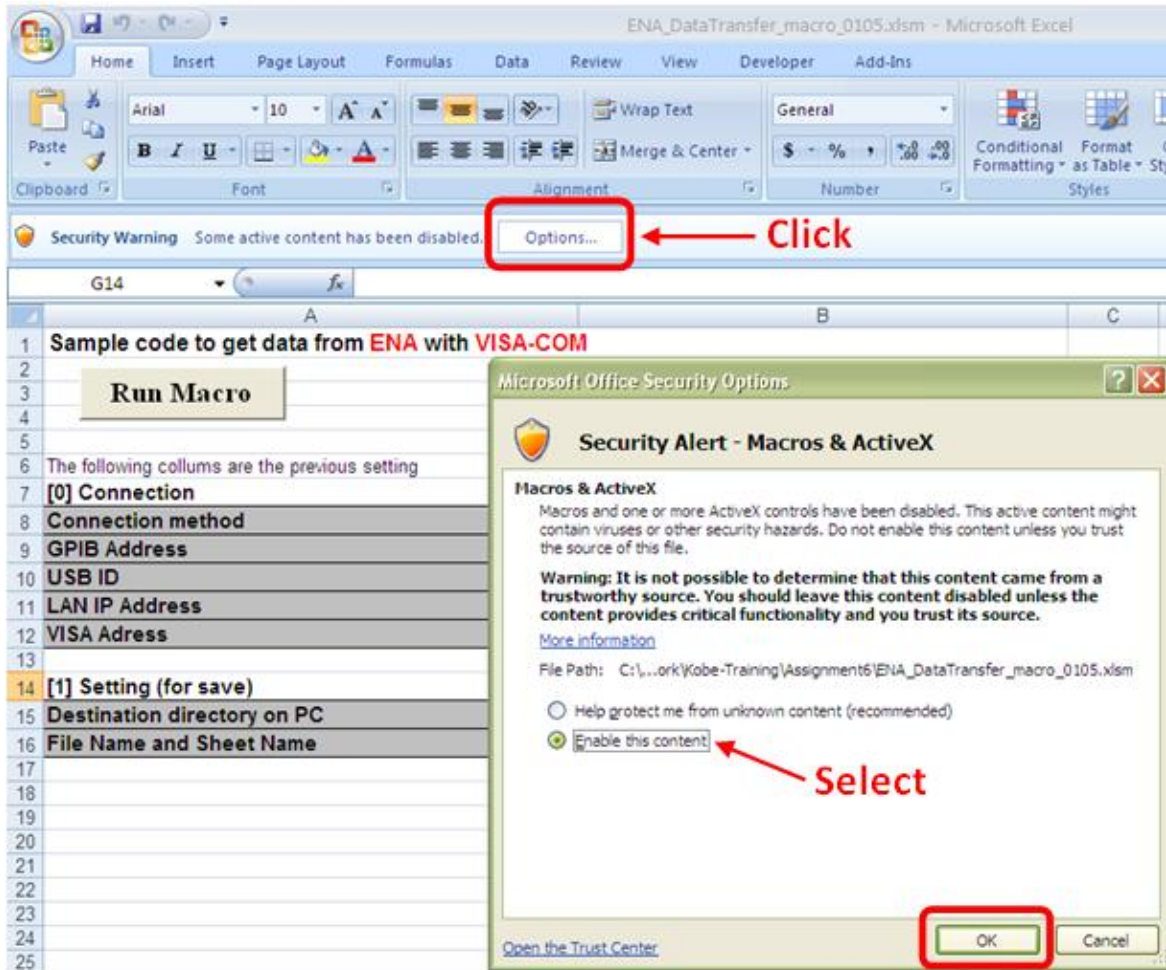
Typeface Conventions

Sample Indicates the hard key whose key label is “Sample”.

Sample Indicates the soft key whose key label is Sample.

2. How to enable macros

1. Open “ENA_DataTransfer_macro_0105.xlsm” on the PC.
2. Click “Options...” button, then Microsoft Office Security Options dialog box will be displayed.
3. Select “Enable this content” and click “OK” button.

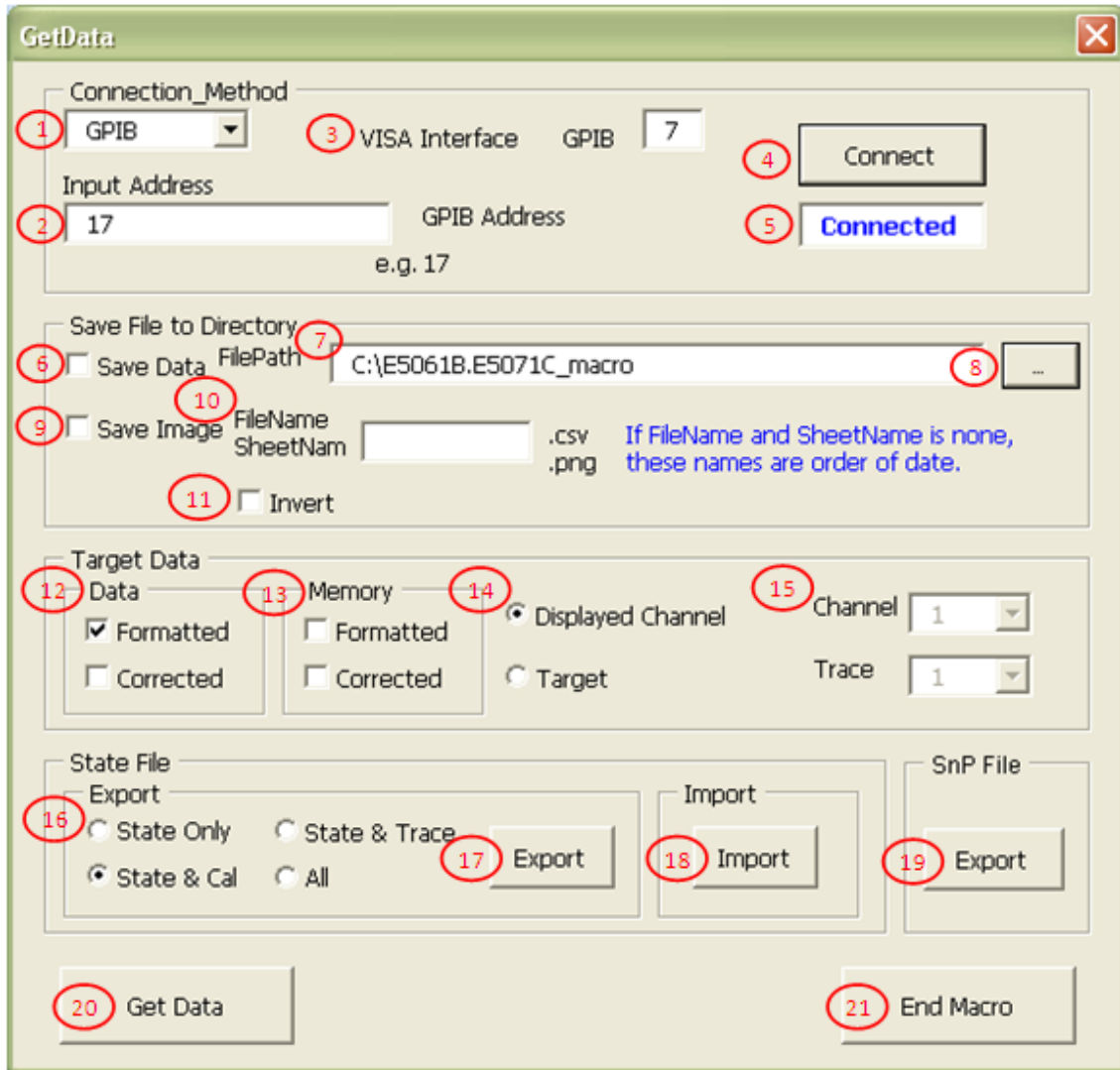


3. How to start the program

1. Run the macro by clicking "Run Macro" in the sheet1 as shown in the figure below.

	A	B
1	Sample code to get data from ENA with VISA-COM	
2		Rev.01.05
3	Run Macro	
4		
5		
6	The following collums are the previous setting	
7	[0] Connection	
8	Connection method	
9	GPIB Address	
10	USB ID	
11	LAN IP Address	
12	VISA Adress	
13		
14	[1] Setting (for save)	
15	Destination directory on PC	
16	File Name and Sheet Name	
17		
18		

4. Operation procedure



Connection Method

1. Select a connection method (item 1).
2. Input the address of the ENA for selected connection method (item 2). Refer to the section 6 “How to confirm the address for each connection method and VISA address” (on page 9) for the checking the address.

Connection Method	Input Address	Example
GPIB	GPIB Address	17
USB	USB ID	2391::2312::MY12345678
LAN	IP Address	192.168.xxx.xxx

3. Input a VISA interface ID of the connection method (item 3). Refer to the section 6 “How to confirm the address for each connection method and VISA address” (on page 9) for checking the VISA interface ID.
4. Click “Connect” button (item 4). When the “Connected” is displayed (item 5), the connection configuration between the ENA and the PC is completed.
The connection setting will be stored in the excel sheet. The setting will be loaded automatically when you start the macro next time.

Save File to Directory

5. If you want to save the measurement result into a separate csv file, check the “Save Data” check box.
The file will be saved to the directory selected at “file path” box (item 7) with the file name entered in the “file name input box” (item 10). If you don’t enter the file name, the file will be named as “day_month_year_time” automatically.
6. If you want to save the display image of the ENA, check “Save Image” box (item 9).
The image file will be saved to the directory selected at “file path” box (item 7) with the file name entered in the “file name input box” (item 10). If you don’t enter the file name, the file will be named as “day_month_year_time” automatically.
If you want to invert the color of the image file, check “Invert Color” box (item 11).
With this setting, the background color of the image will be white.

Target Data

7. Select “Data” or “Memory” and “Target Trace” (item 12, item 13, item 14 & item 15).

Data Format

Formatted Data: The error-corrected data converted to a displayed format such as LogMag, Phase, etc.

Corrected Data: The data corrected the errors. (Real and Imaginary format)

Memory Format

Formatted: The error-corrected memory trace converted to a displayed format such as LogMag, Phase, etc.

Corrected: The memory corrected the errors. (Real and Imaginary format)

Target Trace

Displayed Displayed channel and trace will be transferred.

Channel:

Target: The data of specified channel and trace will be transferred.

When you choose “Target”, you can select the “Channel” and “Trace” (item 15).

State File

8. If you want you save a state file in the external PC, select the save type (item 16) and click the “Export” button (item 17)

Save Type	Description
State Only	Save the measurement conditions only.
State & Cal	Save the measurement conditions and the calibration state.
State & Trace	Save the measurement conditions and the formatted data array.
All	Save the measurement conditions, the calibration state and the formatted data array.

9. If you want you recall the state file stored in the external PC, click the “Import” button (item 18).

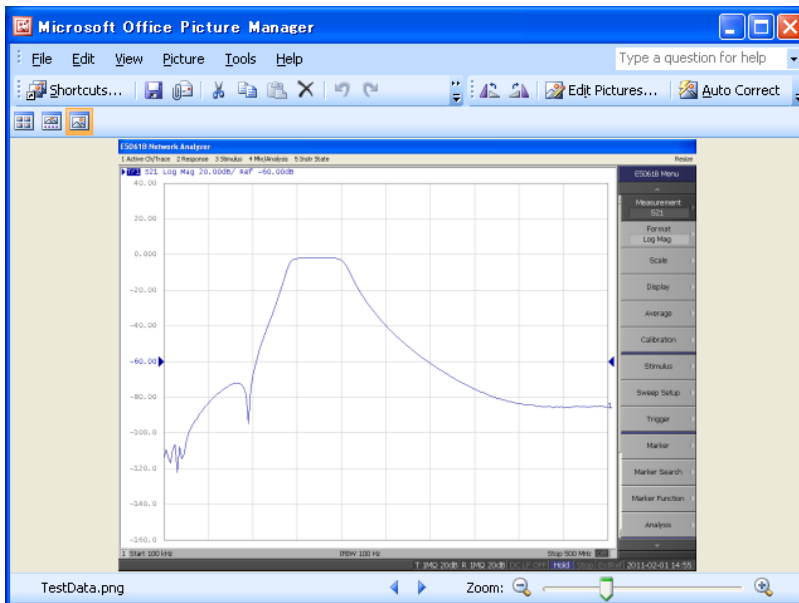
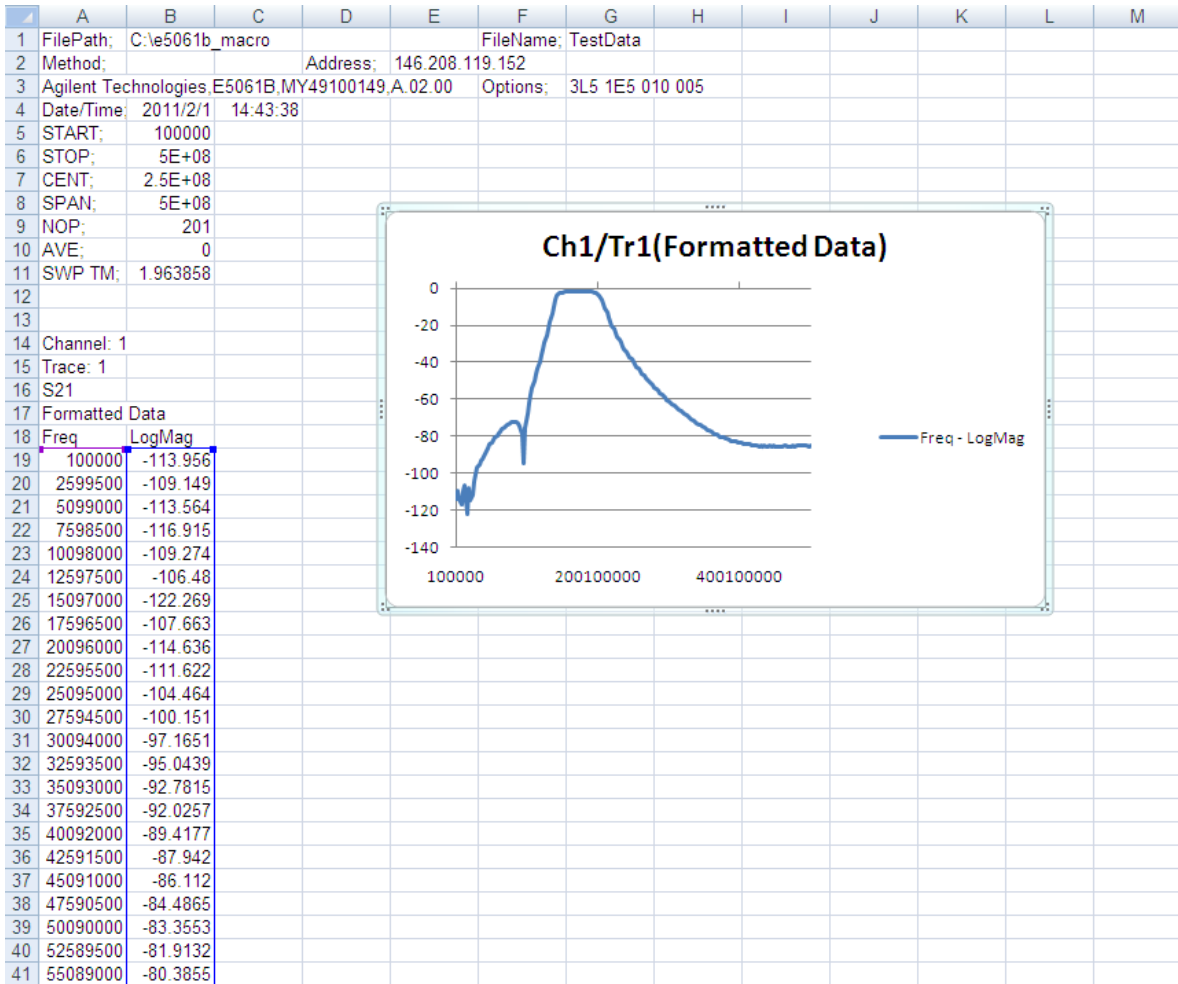
SnP File

10. If you want to save the data in Touchstone format, click “Export” button (item 19).
But this function is not supported by E5061A/62A.

Get Data & End Macro

11. To get the measurement data, click the “Get Data” button (item 20).
12. If you want to end the macro, click the “End Macro” button (item 21).

5. The example of the transferred data



6. How to confirm the address for each connection method and VISA address

GPIB Address

Press **System** > **Misc Setup** > **GPIB Setup**, read the **Talker/Listener Address** on the ENA.

USB ID

Press **System** > **Firmware Revision**, then Firmware Revision dialog box is appears.

Read the USB ID from the dialog box.

IP Address

Turn ON SICL-LAN Server. Press **System** > **Misc Setup** > **Network Setup** > **SICL-LAN Server ON**

Press **System** > **Firmware Revision**, then Firmware Revision dialog box is appears.

Read the IP Address from the dialog box.

VISA Interface ID

1. Run Agilent Connection Expert by double-clicking the icon in the task tray of the external PC.

Double click ←



2. Read the VISA Interface ID and VISA address from the Agilent Connection Expert.

IP VISA interface ID (Item A)

Refer to Item A. The VISA interface ID for a LAN interface is of the form TCPIP n , where n is an integer.

IP Address (Item B)

Refer to Item B for the IP address.

GPIB VISA Interface ID (Item C)

Refer to Item C. The VISA interface ID for a USB-GPIB interface is of the form GPIB n , where n is an integer.

GPIB Address (Item D)

Refer to Item D for the GPIB address. It can be any integer from 0 to 30.

USB VISA Interface ID (Item E)

Refer to Item E. The VISA interface ID for a USB interface is of the form USBn, where n is an integer.

USB Address (Item F)

For USB instrument, uses SICL address (Item F). The SICL address for USB instrument has this format:

Usb<interface#>::<vendor#>::<product#>::<serial#>

The screenshot displays the Agilent Connection Expert interface. The central pane shows a tree view of 'Instrument I/O on this PC'. Several items are highlighted with red boxes and labeled with letters A through F:

- A:** LAN (TCP/IP0)
- B:** 146.208.119.152
- C:** USB/GPIB (GPIB0)
- D:** E5061B (GPIB0::17::INSTR)
- E:** USB0
- F:** SICL address: usb0:2391:3337:LP00200012

The right-hand pane shows the 'USB Instrument - E5071C' properties. The 'SICL address' field is highlighted with a red box and labeled 'F'. A text box at the bottom right of the screenshot states: 'For USB instrument, use SICL address'.

7. Revision History

Revision	Date	Description
01.00	2011/02/22	Initial release
01.05	2011/10/21	<ul style="list-style-type: none">• Supported E5071C, E5072A, E506xA, E507xB• Added Memory format in Target Data• Added export data in SnP format• Added VISA interface ID information.