

Modification Recommended Service Note

Supersedes:
NONE

L4491A 4U RF/Microwave Switch Platform

Serial Numbers: MY56460359 - MY56460642
SG56460003 - SG56460004

The Problem – Devices found to have the same MAC address can cause an IP conflict when connected on the same local network.

Parts Required:

P/N Description Qty.

NONE

ADMINISTRATIVE INFORMATION

ACTION	<input type="checkbox"/> ON SPECIFIED FAILURE	STANDARDS	
CATEGORY:	<input checked="" type="checkbox"/> AGREEABLE TIME	LABOR:	0.5 Hours
LOCATION	<input checked="" type="checkbox"/> CUSTOMER INSTALLABLE	SERVICE:	<input type="checkbox"/> RETURN
CATEGORY:	<input type="checkbox"/> ON-SITE (active On-site contract required)	INVENTORY:	<input type="checkbox"/> SCRAP
	<input type="checkbox"/> SERVICE CENTER		<input type="checkbox"/> SEE TEXT
	<input type="checkbox"/> CHANNEL PARTNERS		<input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	NO CHARGE AVAILABLE UNTIL:	31 March 2020
	<input type="checkbox"/> Calibration Required	PRODUCT LINE:	BL
	<input checked="" type="checkbox"/> Calibration NOT Required	AUTHOR:	AK

ADDITIONAL INFORMATION:

Situation:

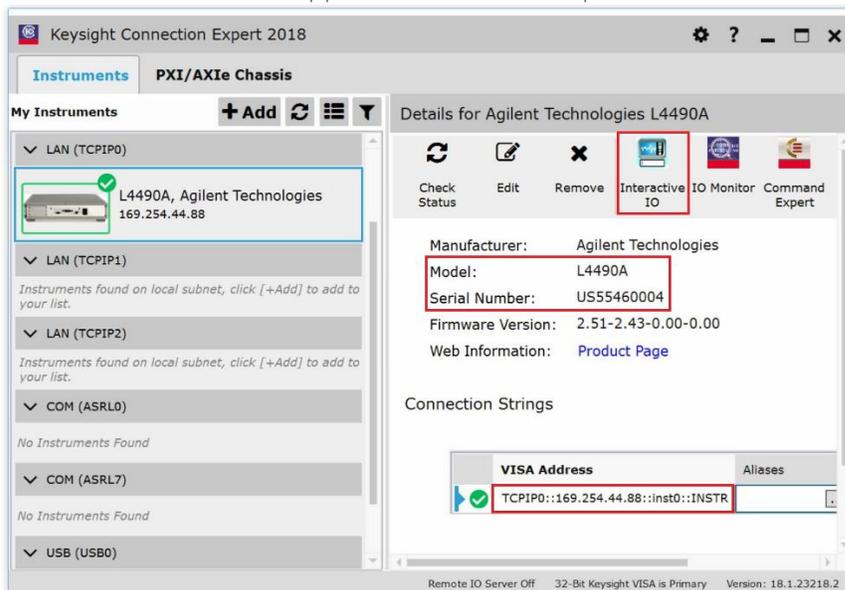
Media Access Control (MAC address) is a hardware address that uniquely identifies each instrument on a network. Each of the L4491A instruments must have a unique MAC address. Due to a software bug, some L4491A's have been shipped with the same MAC address [80-09-02-07-29-FF]. When L4491A's that have the same MAC address are connected to the same local area network, an IP conflict occurs.

Solution/Action:

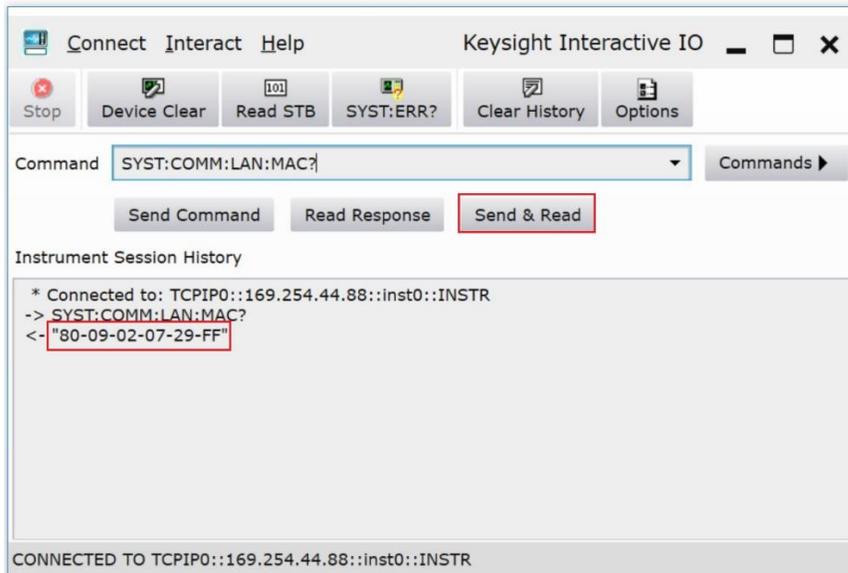
1. Connect the L4491A instrument to a PC controller either using GPIB cable or LAN cable.
2. Power on the Instrument. If the LAN cable is used for communication, please ensure the LAN LED on the instrument's front panel turns yellow before proceeding to the next step.



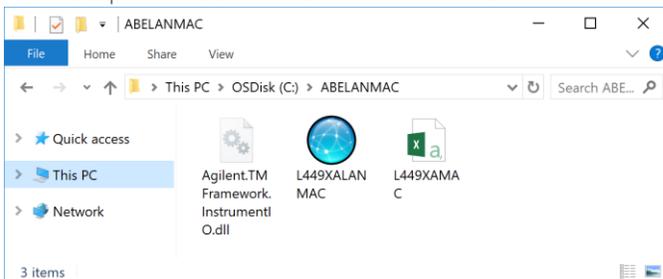
3. Open “Keysight Connection Expert” to ensure a connection with the instrument is established. Take note of the **instrument’s model number**, **serial number** and the **visa address** (GPIB or LAN address) from the “Keysight Connection Expert” tool. These three items will be used in the “L449XALANMAC.exe” application as a user input.



4. Launch Keysight Interactive IO tool within Connection Expert and verify the MAC address of the instrument using SCPI command:
 - (a) "SYST:COMM:LAN:MAC?" : query the instrument's LAN MAC address.



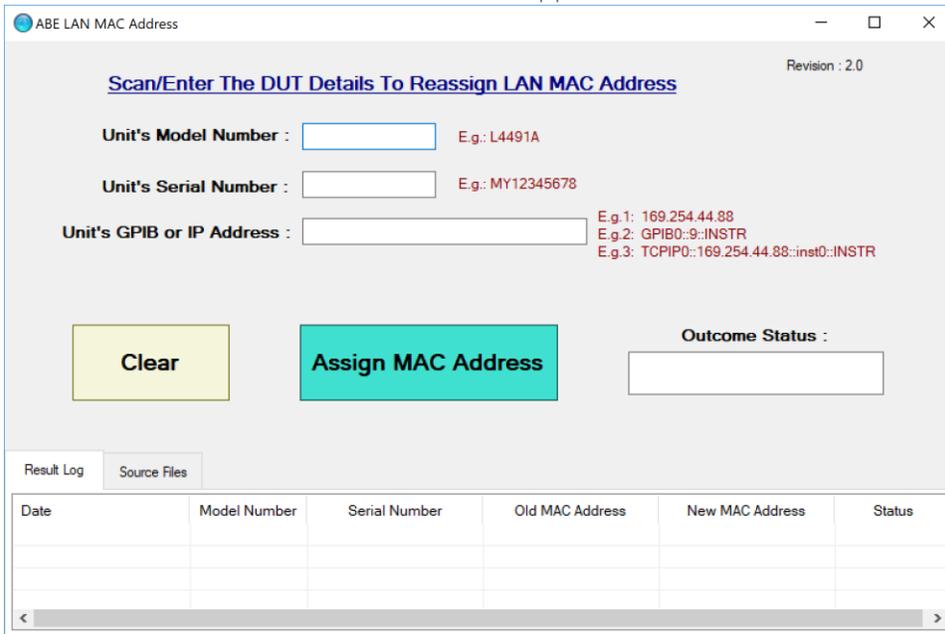
5. If the MAC address is [80-09-02-07-29-FF], please proceed to step 6. Else, the instrument is not affected by the MAC address issue and no further action is required.
6. Create a new folder directory with the name "ABELANMAC" on the PC controller's C:\ drive.
7. Go to URL: <ftp://ftp.keysight.com/mpusup/L449XALANMAC>
8. Place L449XALANMAC.exe, L449XAMAC.csv and Agilent.TMFramework.InstrumentIO.dll files from step 7 inside the "C:\ABELANMAC" folder.



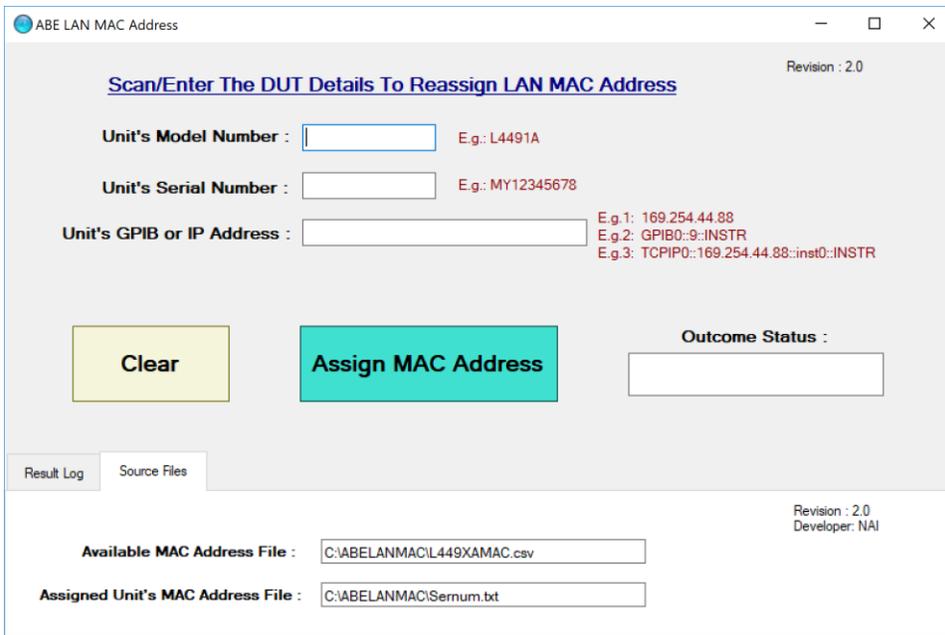
9. Open the "L449XALANMAC" application to launch the test program.



10. The “L449XALANMAC” main window will appear as shown below.



11. The location of the source files is shown at the Source Files tab for user's reference.



- Enter the instrument's details, i.e. model number, serial number, and GPIB or IP address, into the text box fields accordingly. Refer to step 3 on page 2.

ABE LAN MAC Address Revision : 2.0

Scan/Enter The DUT Details To Reassign LAN MAC Address

Unit's Model Number : E.g.: L4491A

Unit's Serial Number : E.g.: MY12345678

Unit's GPIB or IP Address : E.g.1: 169.254.44.88
E.g.2: GPIB0:9:INSTR
E.g.3: TCPIP0:169.254.44.88::inst0:INSTR

Outcome Status :

Result Log | Source Files

Date	Model Number	Serial Number	Old MAC Address	New MAC Address	Status

- Click the "Assign MAC Address" button to update the instrument's Keysight LAN MAC address, or the "Clear" button to clear the user input.
- The Outcome Status box will display as "Completed" if the instrument has successfully been assigned with the new Keysight LAN MAC address, passed the self-test check, and passed the query error check. The Result Log displays the details of the outcome.

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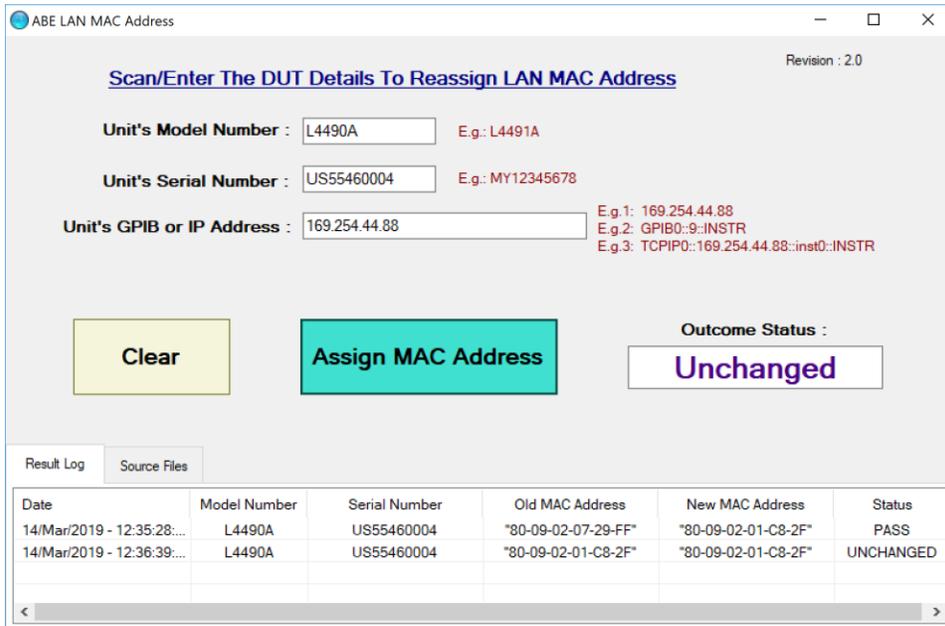
New MAC Address :

Outcome Status :

Result Log | Source Files

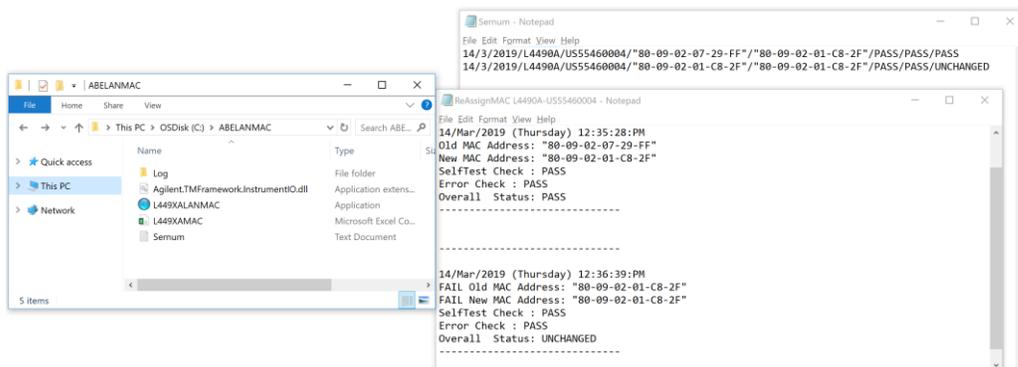
Date	Model Number	Serial Number	Old MAC Address	New MAC Address	Status
14/Mar/2019 - 12:35:28...	L4490A	US55460004	*80-09-02-07-29-FF*	*80-09-02-01-C8-2F*	PASS

- If the instrument already has a valid(non-duplicate) Keysight LAN MAC address assigned, the status will display as “Unchanged” when the “Assign MAC Address” button is clicked as shown below.



- The Test program returns “FAIL” as the outcome status if either the new LAN MAC address update is unsuccessful, instrument failed self-test, or there is an error in the instrument’s error queue.
- The auto-generated soft copy of the test log files are saved here:
 - C:\ABELANMAC\ folder as “Sernum.txt” for the test summary, and
 - C:\ABELANMAC\Log\ folder as “ReAssignMAC *ModelNumber-SerialNumber*.txt” for the test detail output.

Note: *ModelNumber* is the instrument’s model number, and *SerialNumber* is the instrument’s serial number. Example for this instrument is “ReAssignMAC L4490A-US55460004.txt”

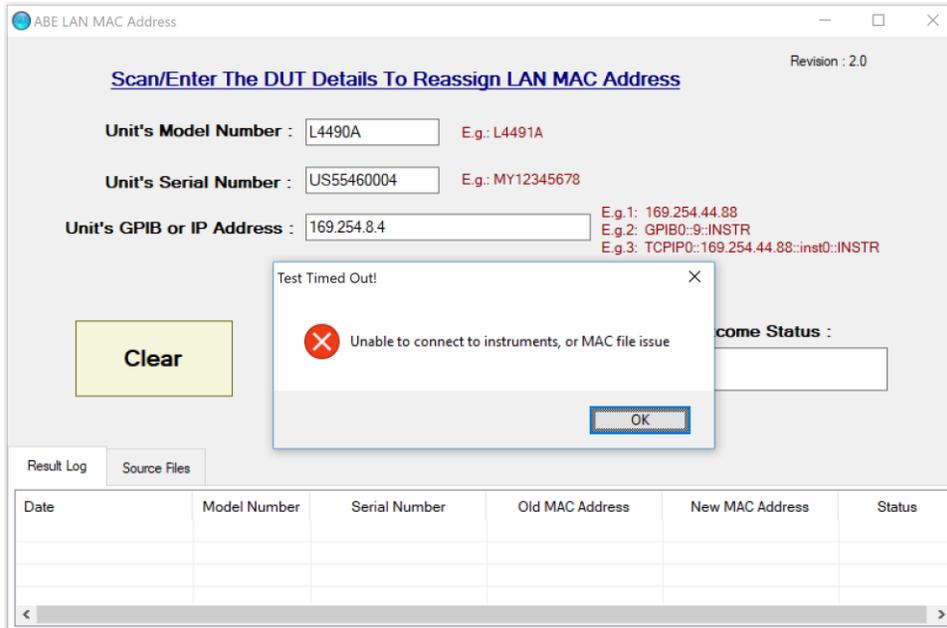


- Close those files and the “L449XALANMAC” application.
- Remove the entire “ABELANMAC” folder from the PC controller’s C:\ drive.

Other Outcome Status

This session will describe the other outcome status displayed based on possible occurrence.

- A. Test program displays a “Test Timed Out!” prompt and closes the application.



Possible Cause 1: The connection between the PC controller and GPIB or LAN cable is not established.

Possible Cause 2: Incorrect instrument's GPIB or IP address entered at the program text box.

Possible Cause 3: Instrument is not powered on when the program is running.

Possible Cause 4: When connecting with the LAN cable, the LAN LED on the instrument's front panel is not yellow.

Possible Cause 5: Missing “L449XAMAC.csv” file according to the Source Files location. Default location for the “L449XAMAC.csv” file is C:\ABELANMAC\.

Possible Cause 6: The “L449XAMAC.csv” file is opened.

Solution 1: Ensure GPIB cable or LAN cable is connected between user's PC and instrument.

Solution 2: Enter the instrument's correct GPIB or LAN IP address, referring to the Keysight Connection Expert or Keysight Interactive IO tools.

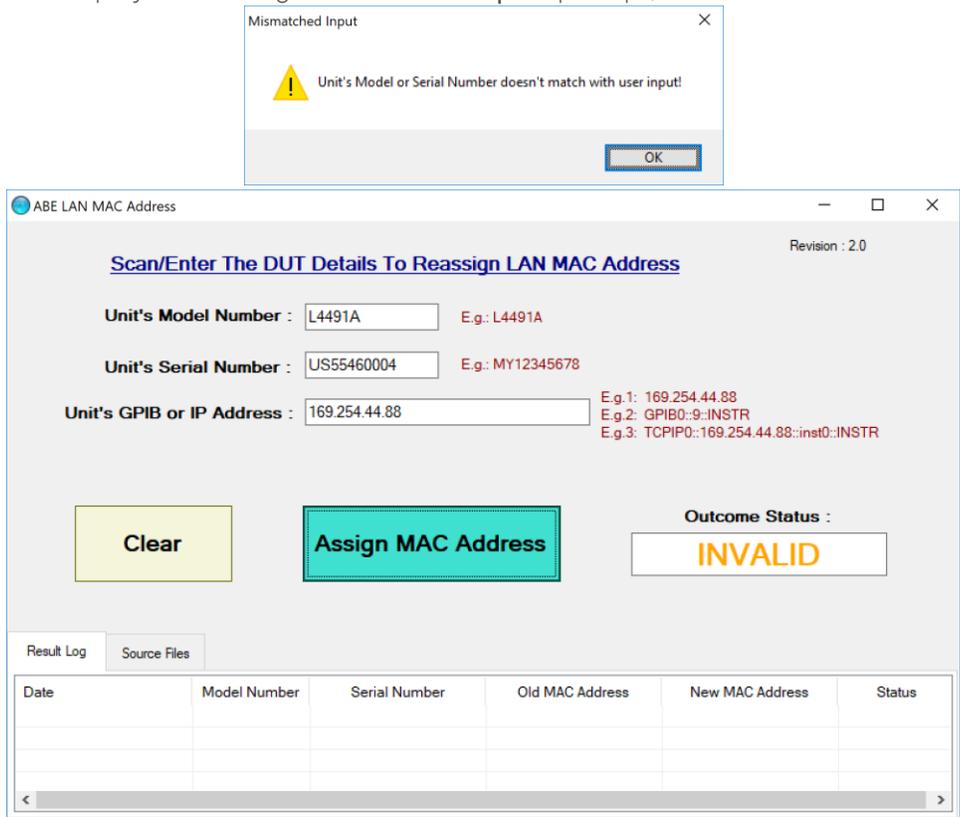
Solution 3: Power on the instrument before running the “L449XALANMAC.exe” application.

Solution 4: Refer to Solution 1 stated above and try to reboot the instrument. Wait for the LAN LED to turn yellow. If the problem persists, contact the Keysight Technical Support team.

Solution 5: Perform step 6 until step 8 in page 3 of this document.

Solution 6: Close the “L449XAMAC.csv” file.

B. Test program displays a warning “Mismatched Input” prompt, and “INVALID” outcome status.



Possible Cause: The user entered the wrong model number or serial number, versus the actual instrument’s model number and serial number.

Solution: Enter the correct model number and serial number of the instrument.

C. Test program displays a “Default Fresh Instrument” prompt and “--- FRESH INSTRUMENT ---” at the Result Log.

Possible Cause: Instrument has a default Keysight LAN MAC address assigned.

Solution: Contact the Keysight Technologies’ Customer Contact Center at www.keysight.com/find/contactus.

Revision History:

Date	Service Note Revision	Author	Reason for Change
21 Mar 2019	01	AK	As Published