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 October 27, 2021, 02:55:41 pm

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Author

Topic: Agilent E4407B Repair , No Video (Read 2670 times)

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smgvbest
Supporter



Posts: 623
Country:



Agilent E4407B Repair , No Video
« on: July 07, 2020, 04:49:01 am »

Say Thanks Reply Quote

I recently acquired a E4407B from Alltest for repair. My thanks to them for accepting my offer. I'm going to start a record on my repair of this unit here.

The symptoms of this unit is that it powers on, Fan runs. back-light comes on, no display though. I hooked up a monitor and nothing on the VGA port either. I opened up the case to check the Boot Status LEDs on the A4 Board

I have DS1, DS7 and DS13 staying on, This according to the service guide is a firmware checksum error. This could be a bad load of the firmware, it could also be due to bad FLASH SIM. or a chip on the SIM.

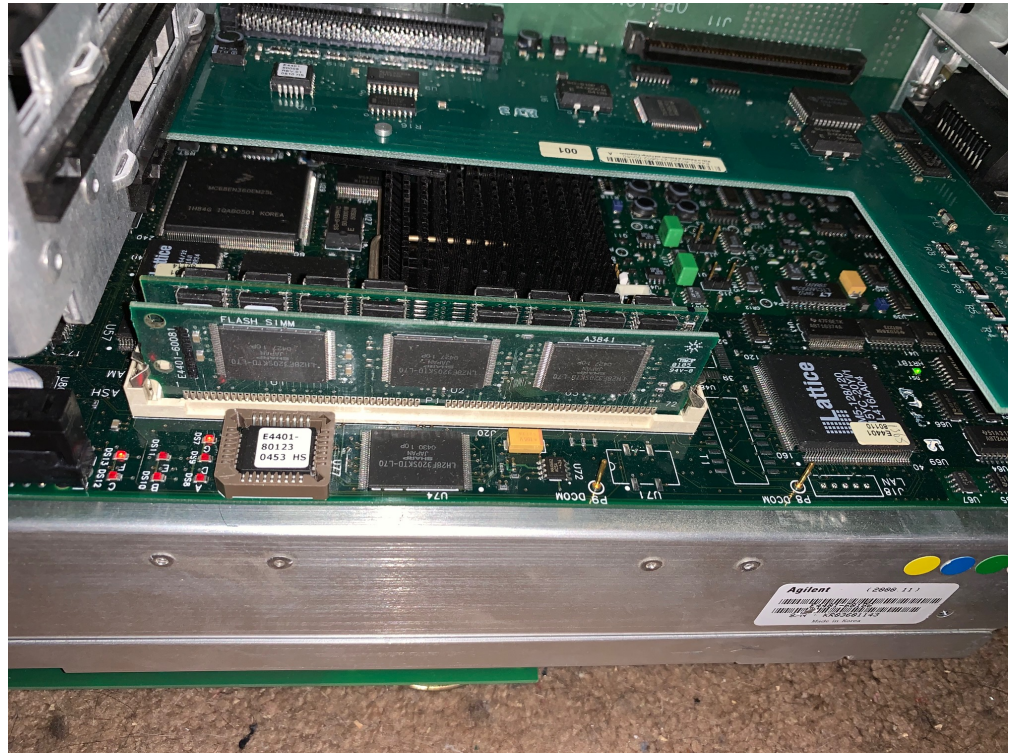
First thing I will do is pull the A4 board and re-seat the memory modules as well at the Boot EPROM.

I will try to try to re-load the firmware if that does not work. This unit does have Option B72 so memory is not a problem in loading firmware. The first issue I have is no 3.5" floppy drive to create the firmware disks nor do I have 9 3.5" floppy disks

Did a order with Amazon for a USB Drive and a box of disks. they will be here Wednesday so little progress is likely to happen until then

I will start with that and see if i get any life out of it from from that. what I hope if nothing else is to see the screen come alive prompting for disks. that will at least tell me if display is alive or not.

here is the A4 board showing the Boot Status LEDs



IMG_2313.jpg (1070 kB, 2016x1512 - viewed 1433 times.)

« Last Edit: August 08, 2020, 05:31:03 am by smgvbest »

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

« Reply #1 on: July 07, 2020, 03:00:52 pm »

[Say Thanks](#)

[Reply](#)

[Quote](#)

I removed the A4 board this morning and replaced the TimeKeeper/Snaphat, I did a visual inspection of the board and see nothing that stands out, I removed the DIMM/FLASH and cleaned contacts (they were ok, did for good measure) also removed the BOOT EPROM and reseated it and replaced the board. not a big surprise but same symptom shown on the LEDs.
I also checked for signs of excessive heat from the chips and could not identify any.

I did take some pics of the A4 that I will post later after work
I'll create the 3.5 floppies tomorrow after the drive/discs arrive and see if I can flash the firmware.

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

« Reply #2 on: July 08, 2020, 11:38:16 pm »

[Say Thanks](#)

[Reply](#)

[Quote](#)

So I received the 3.5" USB drive today and it's defective. Returning to Amazon and purchasing a new one from another company.
Can not believe I do not have some old PC laying around with a 3.5 drive.

Since there's a good chance the flash is bad (hence checksum) i ordered 2 flash memory just in case.

Any one in USA got a 3.5" drive that can burn the floppy discs for this by chance?

Keysight wants 140 for the 9 discs :O

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

smgvbest

Re: Agilent E4407B Repair , No Video

Supporter



Posts: 623

Country:



smgvbest

Supporter



Posts: 623

Country:



« **Reply #3 on:** July 09, 2020, 01:30:08 am »

[Say Thanks](#) [Reply](#) [Quote](#)

OK, had a moment of clarity.
I have a Infinium with a 3.5" floppy. hooked it to the network and i'm creating DISCs

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Sandra
(Yes, I am a Woman :p)

Re: Agilent E4407B Repair , No Video

« **Reply #4 on:** July 11, 2020, 12:04:43 am »

[Say Thanks](#) [Reply](#) [Quote](#)

So, Put in the ESA LOADER Disc and powered up. got the same white screen and no video on the RGB port. The Boot loader did read the disc but no video to know where it was at. I left it for about 20 min then pressed enter and nothing.

I remember reading a article that mentioned a bad loader disk and today my replacment 3.5' drive arrived and this one works

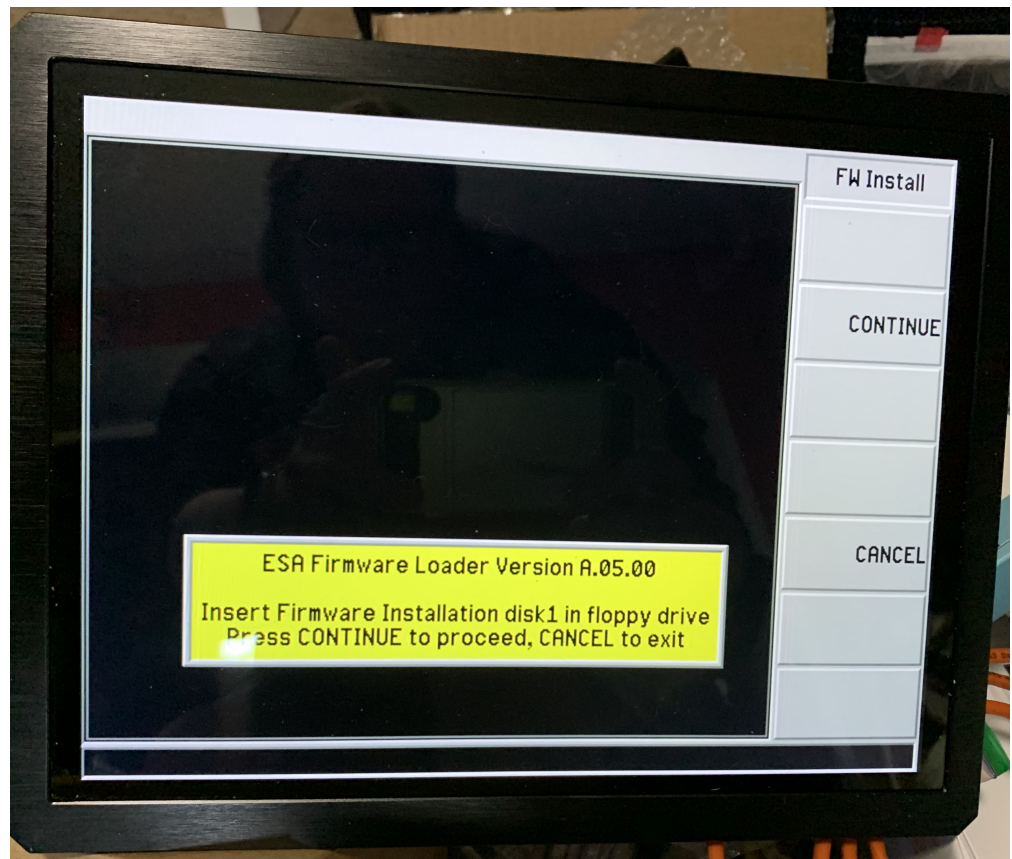
I ran a MD5 on the original files and compared the floppies, all where good except the ESA Loader Disc

I wrote a new one and check it and it's good.

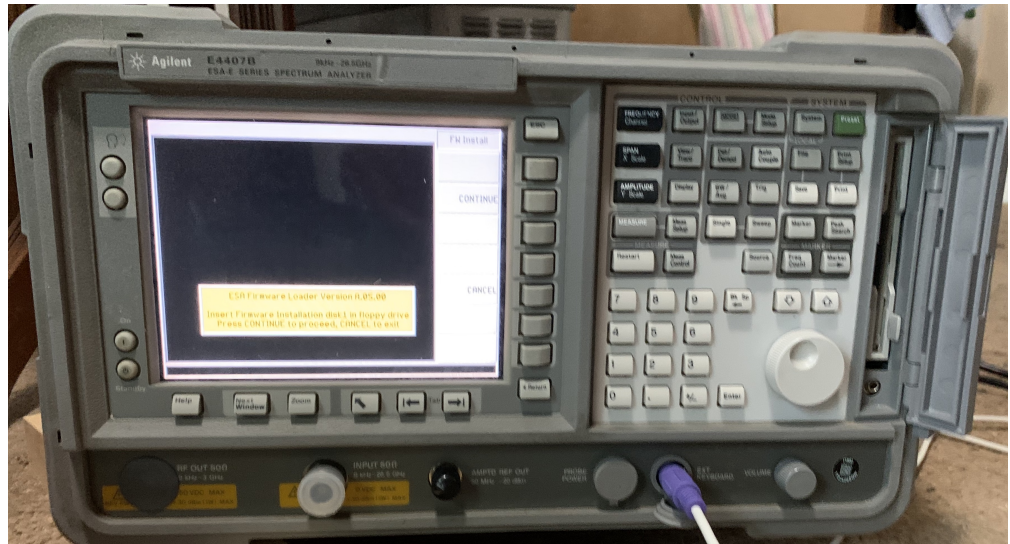
I put it in and powered up

This is very good, this proves Video does work, RGB does work. also Boot Rom uses same Address, Data buffers as the FW Flash, Flash sim and DRAM so I know those are good

I had DS1 flashing steady at 1hz so the heart beat was good. while loading DS7/DS13 where out



IMG_2387.jpg (1928.23 kB, 3036x2596 - viewed 1170 times.)



IMG_2386.jpg (2281.95 kB, 3578x1929 - viewed 1171 times.)

« Last Edit: August 08, 2020, 05:31:30 am by smgvbest »

Report to moderator Logged

Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video
« Reply #5 on: July 11, 2020, 12:21:28 am »

Say Thanks Reply Quote

Reach the last of the Firmware disc, 5 of 5

All disks loaded. I then continued and Firmware updated successfully
I power cycled and DS1/DS7 and DS13 on again.
Checksum on firmware flash

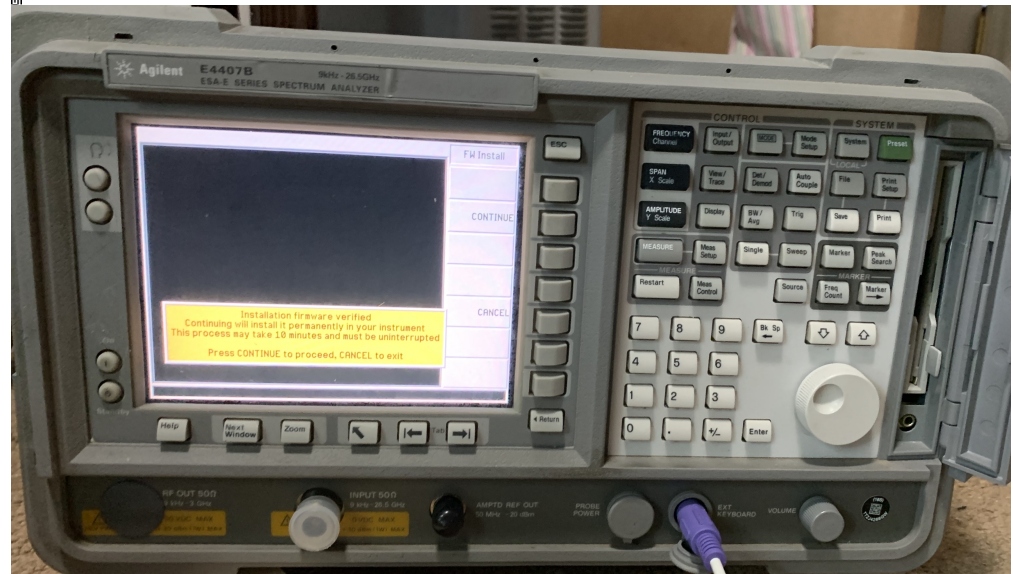
so again given the buffers look good based on the boot rom working it could be the VPP line on the FLASH is not working so it's not getting programmed could be a bad flash rom as well. I hope the replacement flash is hear next week.

I do want to read out the config eeprom on the back U56 I believe so I have it saved.
I'll also go ahead on unsolder the flash and run it thru the TL866II Plus. I can read it out, write it back and see if there is an error. if so I know thats the problem if not. I have more troubleshooting to do

I also want to look at that config eeprom as that appears to be where the licenses are stored.
hummmmm



IMG_2376.jpg (1461.16 kB, 2726x1984 - viewed 1110 times.)



IMG_2377.jpg (1625.12 kB, 3560x2022 - viewed 101 times.)

« Last Edit: August 08, 2020, 05:34:54 am by smgvbest »

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Sandra
(Yes, I am a Woman :p)

Re: Agilent E4407B Repair , No Video
« Reply #6 on: July 12, 2020, 02:06:43 am »

Say Thanks Reply Quote

Uploading some images of the processor board while I wait

smgvbest

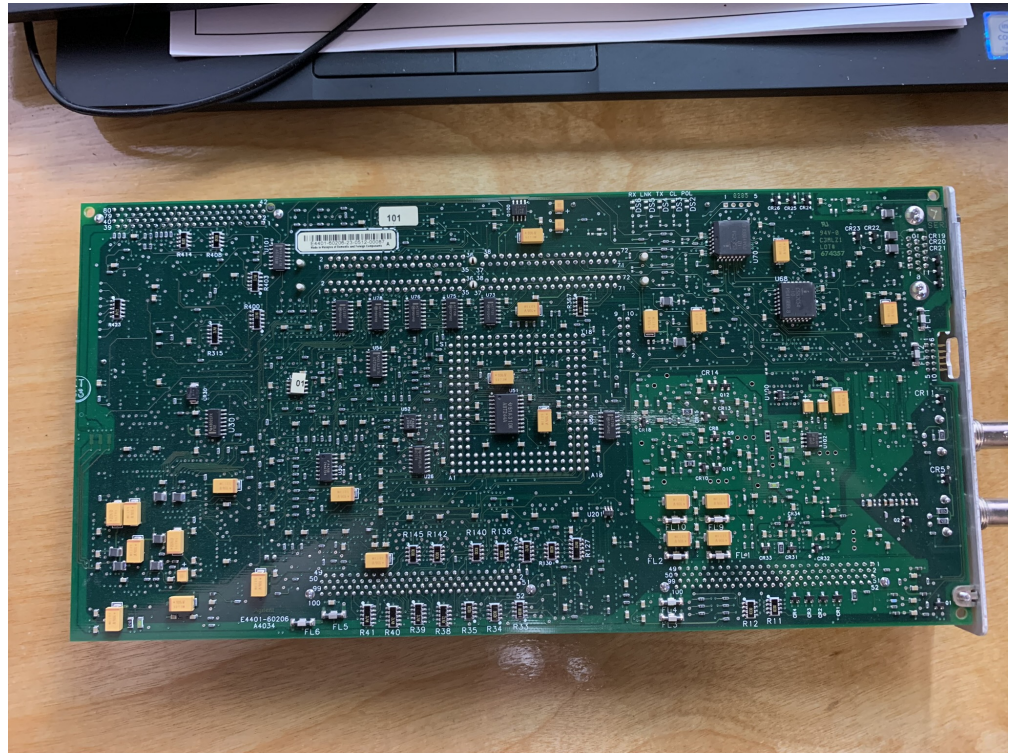
Supporter



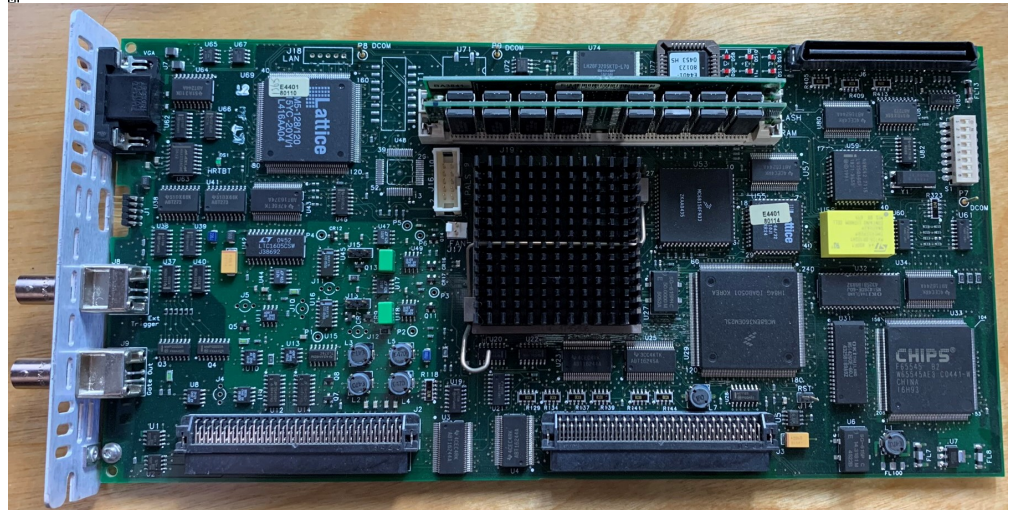
Posts: 623

Country:





IMG_2333.JPEG (953.54 kB, 2048x1536 - viewed 1079 times.)



IMG_2317.JPEG (581.45 kB, 1805x918 - viewed 83 times.)

« Last Edit: August 08, 2020, 05:35:44 am by smgvbest »

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Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

« **Reply #7 on:** July 12, 2020, 02:13:17 am »

[Say Thanks](#)

[Reply](#)

[Quote](#)

Ever wonder whats under the timekeep snaphat, here you go



IMG_2353.JPEG (684.75 kB, 1536x2048 - viewed 1070 times.)

« Last Edit: August 08, 2020, 05:35:59 am by smgvbest »

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Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

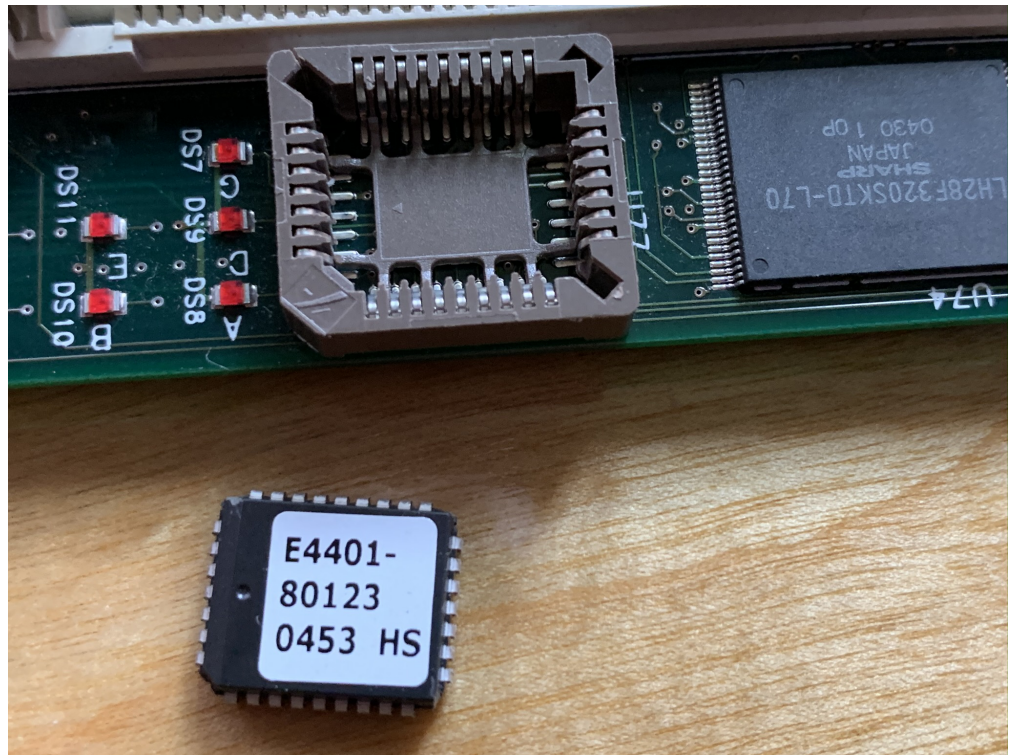
« Reply #8 on: July 12, 2020, 02:14:32 am »

Say Thanks

Reply

Quote

Boot Rom Pulled to be reseated and the troublesome Firmware Flash



IMG_2351.JPEG (709.49 kB, 1536x2048 - viewed 1064 times.)

« Last Edit: August 08, 2020, 05:36:14 am by smgvbest »

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Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

« Reply #9 on: July 16, 2020, 01:19:52 am »

Say Thanks

Reply

Quote

Still waiting on the Flash Memory to show up so I desoldered the U56 EEPROM and read it out. This is a screen cap of the contents. the Processor Board Model, Serial and the SA Model and Serial are really all that's in here

[attachimg=1]

[attach=2]

I also dumped the Boot Rom and am attaching it here

[attach=3]


```

00000000h: 33 06 45 34 34 30 31 36 30 32 30 36 00 00 32 33 ; 3.E440160206..23
00000010h: 30 35 31 32 30 30 30 38 37 00 39 39 00 00 00 45 ; 051200087.99...E
00000020h: 50 72 6F 63 65 73 73 6F 72 00 00 00 00 00 00 ; Processor.....
00000030h: 00 00 00 00 00 00 00 00 00 00 00 00 00 52 C1 ; .....RÅ
00000040h: 00 00 00 00 45 53 41 20 45 2D 53 65 72 69 65 73 ; ...ESA E-Series
00000050h: 00 20 73 65 72 69 65 73 53 70 65 63 74 72 75 6D ; .seriesSpectrum
00000060h: 20 41 6E 61 6C 79 7A 65 72 00 00 00 00 00 00 ; Analyzer.....
00000070h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ; .....
00000080h: 00 00 00 00 00 00 00 00 00 00 00 00 45 34 34 30 37 42 ; .....E4407B
00000090h: 00 00 00 00 00 00 00 00 00 00 00 00 00 55 53 ; .....US
000000a0h: 34 30 32 34 31 37 32 32 55 55 00 01 05 41 00 00 ; 40241722UU...A..
000000b0h: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ; .....
000000c0h: 00 00 FF FF FF FF FF FF FF FF FF FF FF FF FF ; .yyyyyyyyyyyy
000000d0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000000e0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000000f0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000100h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000110h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000120h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000130h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000140h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000150h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000160h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000170h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000180h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
00000190h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000001a0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000001b0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000001c0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000001d0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000001e0h: FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF ; yyyyyyyyyyyyyy
000001f0h: FF FF FF FF FF FF FF FF FF FF FF FF 00 00 00 00 ; yyyyyyyyyyyy....

```

Processor Board Part Number

Serial Number

Model

Serial Number


- 2020-07-15_21-04-33.jpg (269.34 kB, 940x710 - viewed 983 times.)
- U56-93C66-SOIC.7z (0.26 kB - downloaded 49 times.)
- U77-29F010-PLCC32-E4404-80123-0453 HS.7z (33.44 kB - downloaded 57 times.)

« Last Edit: July 16, 2020, 01:33:06 am by smgvbest » Report to moderator Logged

Sandra
(Yes, I am a Woman :p)

smgvbest
Supporter

●●●●●



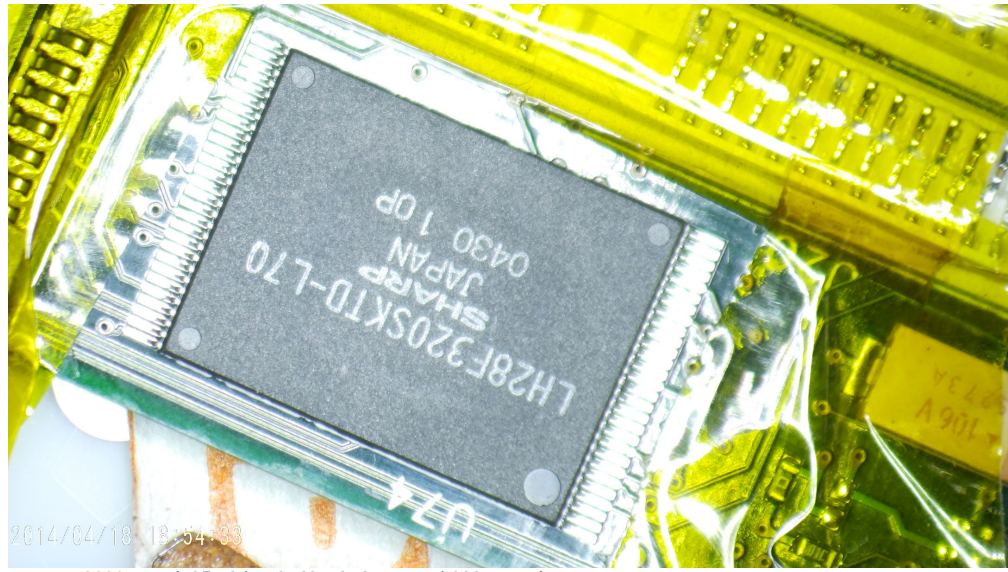
Posts: 623
Country:

Re: Agilent E4407B Repair , No Video
« Reply #10 on: July 16, 2020, 01:30:39 am » Say Thanks Reply Quote

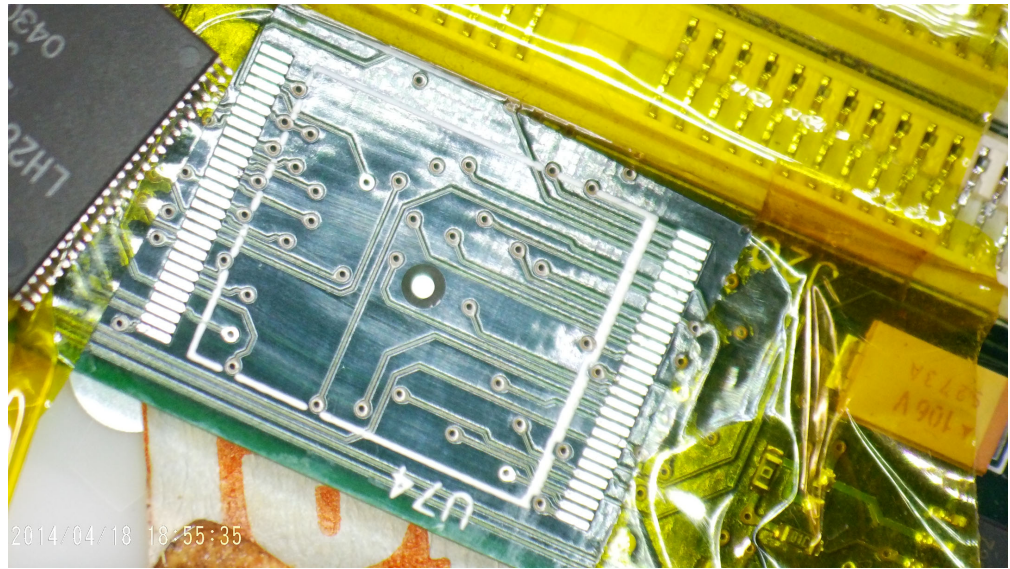
Everything is pointing to the U74 being bad. so I have gone ahead and desoldered the flash

Flash Removed

I just noticed the time stamp on my microscope camera is WAY off 🙄



smIMAG0001.jpg (495.73 kB, 2160x1216 - viewed 983 times.)



smIMAG0003.jpg (505.66 kB, 2160x1216 - viewed 982 times.)

« Last Edit: August 08, 2020, 05:36:42 am by smgvbest »

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Sandra
(Yes, I am a Woman :p)

The following users thanked this post: Grandchuck

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

« Reply #11 on: July 18, 2020, 02:07:59 am »

Say Thanks

Reply

Quote

No much to update at this point. Still waiting on parts. I placed an order for a TSOP-56 stencil from chipquick. says it shipped Monday but UPS is still waiting on the package to be turned over. I emailed chipquick, so far no reply from. Not very happy with them at this point.

Report to moderator Logged

Sandra
(Yes, I am a Woman :p)

feedback.loop

Regular Contributor



Posts: 218

Country:



Re: Agilent E4407B Repair , No Video

« Reply #12 on: July 20, 2020, 06:42:12 am »

Say Thanks

Reply

Quote

Quote from: smgvbest on July 18, 2020, 02:07:59 am

No much to update at this point. Still waiting on parts. I placed an order for a TSOP-56 stencil from chipquick. says it shipped Monday but UPS is still waiting on the package to be turned over. I emailed chipquick, so far no reply from. Not very happy with them at this point.

Why stencil? I would not bother. These packages are easy to solder by hand.

Report to moderator Logged

The following users thanked this post: narkeleptk

capt bullshot

Super Contributor



Posts: 2567

Country:



Re: Agilent E4407B Repair , No Video

« Reply #13 on: July 20, 2020, 07:29:34 am »

Say Thanks

Reply

Quote

I really appreciate posting text and pictures, thanks. Usually I can't be bothered to watch another repair video. So good luck for your project, and as feedback.loop said, TSOP-56 can easily soldered by hand. Not if you're doing it the first time and don't know the trick: Use enough flux and solder wick to remove shorts.

Report to moderator Logged

Safety devices hinder evolution

smgvbest

Re: Agilent E4407B Repair , No Video

« Reply #14 on: July 21, 2020, 12:43:30 pm »

Say Thanks

Reply

Quote

Supporter



Posts: 623

Country:



smgvbest

Supporter



Posts: 623

Country:



Not for very shaky hands. I used to be able to, not so much anymore

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

Re: Agilent E4407B Repair , No Video

« **Reply #15 on:** July 27, 2020, 04:47:13 pm »

[Say Thanks](#) [Reply](#) [Quote](#)

here's an update, the CPU is hard to troubleshoot since you do not have easy access to probe it. i've had to solder short wires at various points to do so and can find no where that looks wrong. i'm wondering if it's simply a failed FW upgrade and its' bricked.

That said I did acquire another CPU board to test with and everything comes up and passed all test, align all, done with no issues
I know this is cheating but atleast I know it works

given that, the problem is definitely the CPU board. I think what I will try on the board is a full flash erase then try to reprogram it.

I still want to fix the board that was in it then probably sell it to get back some of what I paid for the other board.

2 things I would like to ask

1. Does anyone have the software that was available with the Service Manual?
Part Number E4401-90450
Part Description: Contact Parts ID ESA-E service doc / SW kit
if so contact me via PM please.

2. I would love work on hacking the Option Keys. if anyone is willing to share their options information I need your Host ID, Serial Number , Option and License Key to work on it.
PM me if you're willing to share privately.

I do not want to post this information publicaly.

BTW, the Processor JTAG does not look to be brought out, bummer. but it is a socketed thru-hole processor so it may be possible to access JTAG by soldering direct to the pins.

I would love to dump all memory spaces, boot, FW Flash, Flash etc to work on the license stuff

« Last Edit: July 27, 2020, 05:00:26 pm by smgvbest »

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:

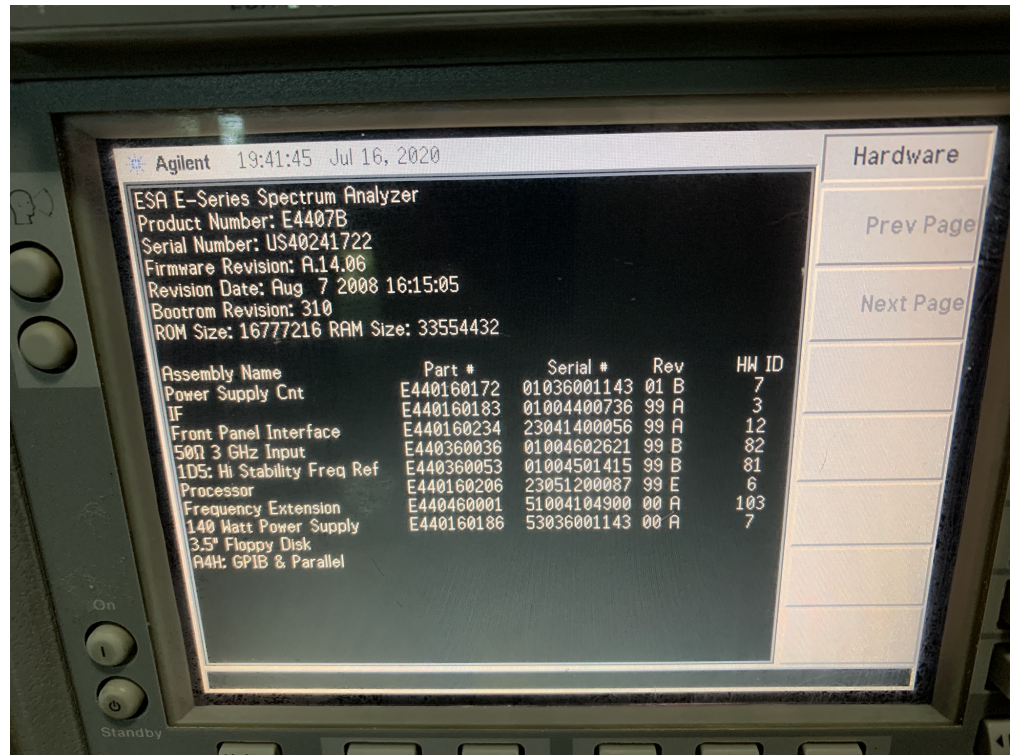


Re: Agilent E4407B Repair , No Video

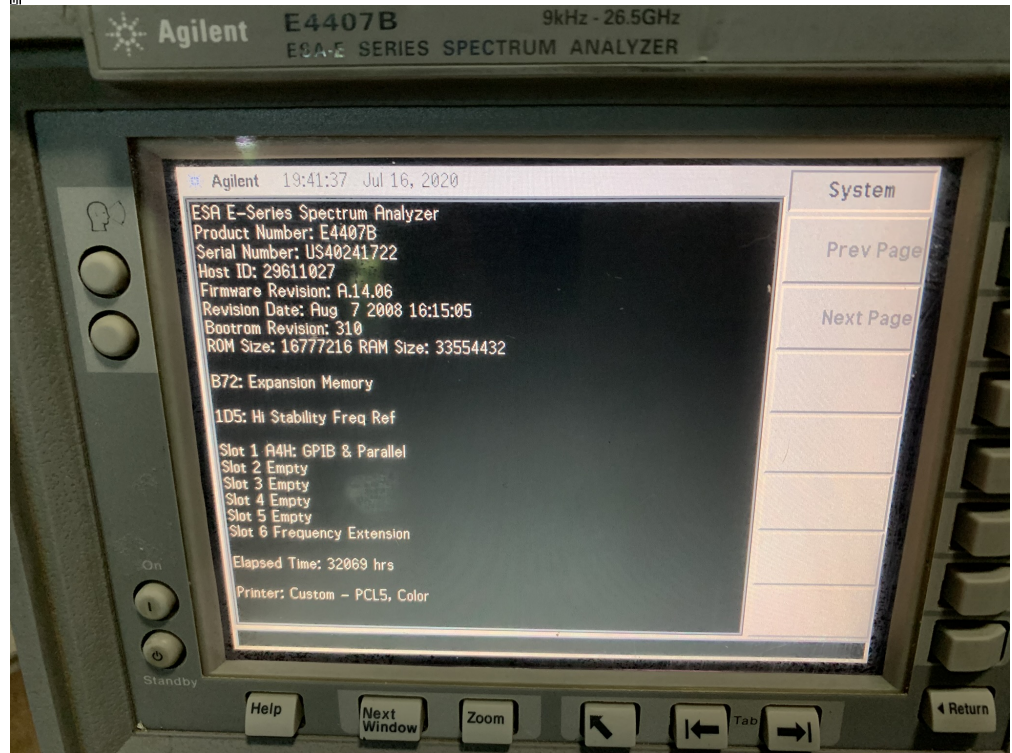
« **Reply #16 on:** July 27, 2020, 04:52:24 pm »

[Say Thanks](#) [Reply](#) [Quote](#)

More images



IMG_2405.JPEG (806.46 kB, 2048x1536 - viewed 585 times.)



IMG_2404.JPEG (709.03 kB, 2048x1536 - viewed 73 times.)

« Last Edit: August 08, 2020, 05:37:54 am by smgvbest »

Report to moderator Logged

Sandra
(Yes, I am a Woman :p)

smgvbest
 Supporter

Re: Agilent E4407B Repair , No Video
 « Reply #17 on: July 27, 2020, 04:54:48 pm »

Say Thanks Reply Quote

Only the Power Suite Personalities installed

No Licenses



Posts: 623

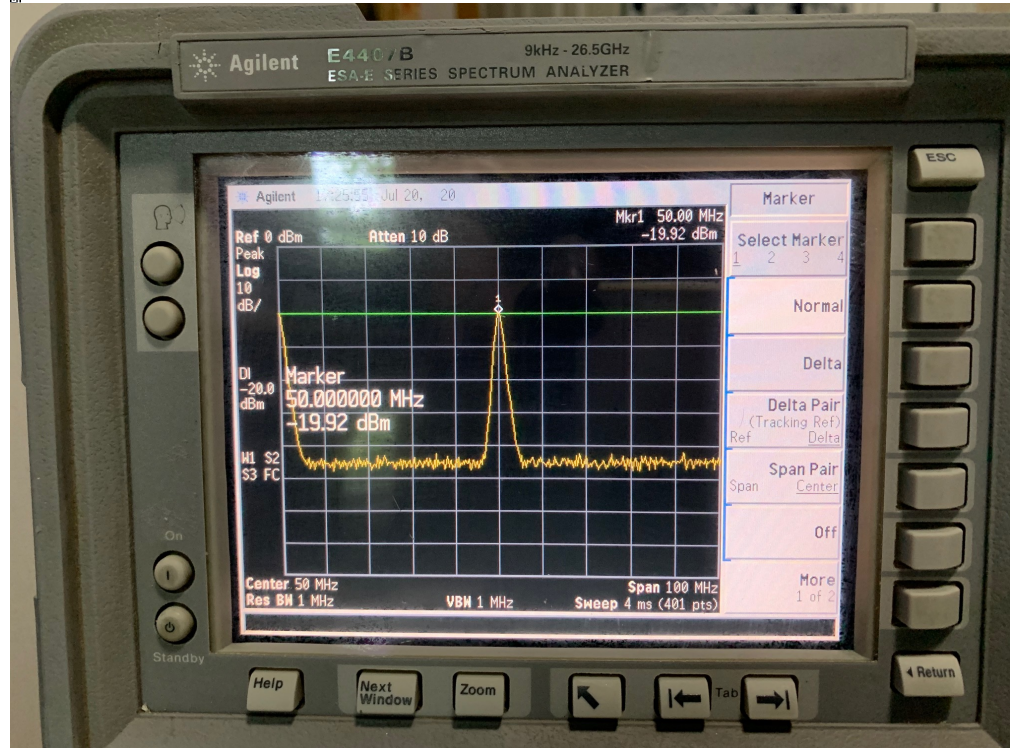
Country:



And Finally view the 50Mhz Calibration Signal



IMG_2407.JPEG (570.83 kB, 2048x1536 - viewed 550 times.)



IMG_2417.jpg (782.4 kB, 2016x1512 - viewed 570 times.)



IMG_2406.JPG (604.92 kB, 2048x1536 - viewed 65 times.)

« Last Edit: August 08, 2020, 05:38:55 am by smgvbest »

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Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

« Reply #18 on: July 29, 2020, 12:42:48 am »

Say Thanks

Reply

Quote

OK, I put the original board back in and tried to flash it again. i took 3 times to get the loader to load. flashed and rebooted and exact same thing. pooh so I went back to the other CPU board and tried something. I did the full flash erase ESC+RETURN+VIEW/TRACE as I turned it on. after an erase a reboot behaves exactly as my issue. same LED Code. WHITE screen, no heartbeat (DS1). hummmmmm

after I flashed this board it came back asking for the power suite. so why isn't the original board???

i pulled the FLASH SIMM out of the new board and put into the old board. powered up and same thing but maybe it never flashed the FW???

So I powered down and put in the ESA Loader disc, powered up and right into the loader. after 5 discs of the FW I installed the FW and powered down.

held my breath and powered up.....Its got a heart beat. then the splash screen, then asking me to install the power suite so in goes 3 discs. finished rebooted and

IT'S ALIVE

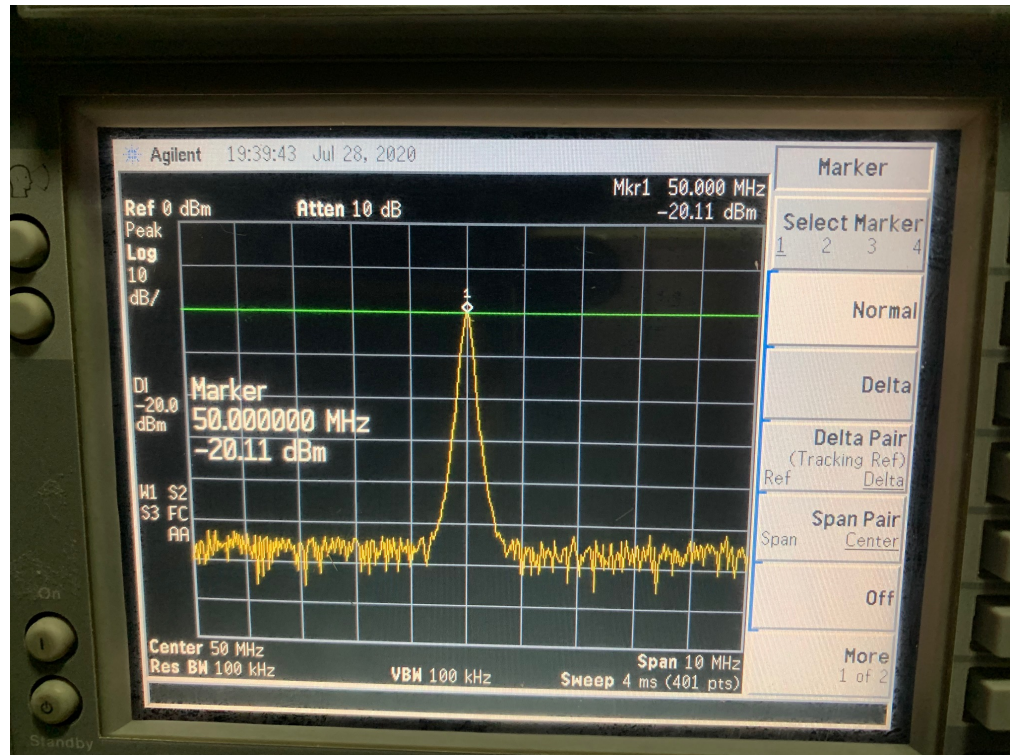
the old board is working now.

I put the old sim back in and same problem occurs. there is a issue with the SIMM FLASH. I'm going to replace the flash on the module and try again with it.

This to me is major progress.
i've verified the old board does work
I did a full align and it worked.

I'll check this SIMM out but i do have a working old and new board. one will be going up for sale, in the near future

Image of 50Mhz Call signal after Align All, original board, flashed with 14.06



IMG_2426.jpg (811.44 kB, 2016x1512 - viewed 57 times.)

« Last Edit: August 08, 2020, 05:39:33 am by smgvbest »

Report to moderator Logged

Sandra
(Yes, I am a Woman :p)

The following users thanked this post: capt bullshot

smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video
« Reply #19 on: July 29, 2020, 03:04:40 am »

Say Thanks

Reply

Quote

I replaced the flash on the simm and still same thing.
problem is consistent with this simm module.

on a visual check there's nothing wrong that I can see. traces intact. I check each flash for shorts on adjacent pins, as well as continuity to the pads, all checked good.
I'm going to check the caps on it and make sure they are all ok.

if i don't see anything that way I'll do a comparison between a working one pin by pin and see if that shows up anything.

Report to moderator Logged

Sandra
(Yes, I am a Woman :p)

negativ3

Regular Contributor



Posts: 125

Country:



Re: Agilent E4407B Repair , No Video
« Reply #20 on: July 29, 2020, 07:51:54 am »

Say Thanks

Reply

Quote

A very thorough and informative write up. May I ask, which tools do you use for IC read/write?

Report to moderator Logged

smgvbest

Supporter



Re: Agilent E4407B Repair , No Video
« Reply #21 on: July 30, 2020, 02:02:36 am »

Say Thanks

Reply

Quote

for the 9366 EEPROM i used the XGecu T56
I asked them to add support for the FLASH , it's capable of r/w to it but not supported. they said they would add soon

I'd love to read out the FLASH and see if anything was true wrong or was it really bricked.

Posts: 623
Country:

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623
Country:

Re: Agilent E4407B Repair , No Video

« Reply #22 on: August 01, 2020, 01:00:52 pm »

[Say Thanks](#) [Reply](#) [Quote](#)

Xgecu released 10.29 of the software and added the flash support I requested.
I did confirm the flash on the CPU board was bad, I did a multiple Read/Eraser/Program/Verify on it and after 1 pass it failed.
The flash from the SIMM was OK. But that Simm module still has problems. if its put in I get the same original problem back
so any condition where the flash is as an issue results in same behavior

the board is fixed but that SIMM still CAUSES problems
it's hard to find the SIMMs anywhere and Keysights current price is \$506

I'm going to compare a known working SIMM to the one not working next and see of there are any differences.

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

smgvbest

Supporter



Posts: 623
Country:

Re: Agilent E4407B Repair , No Video

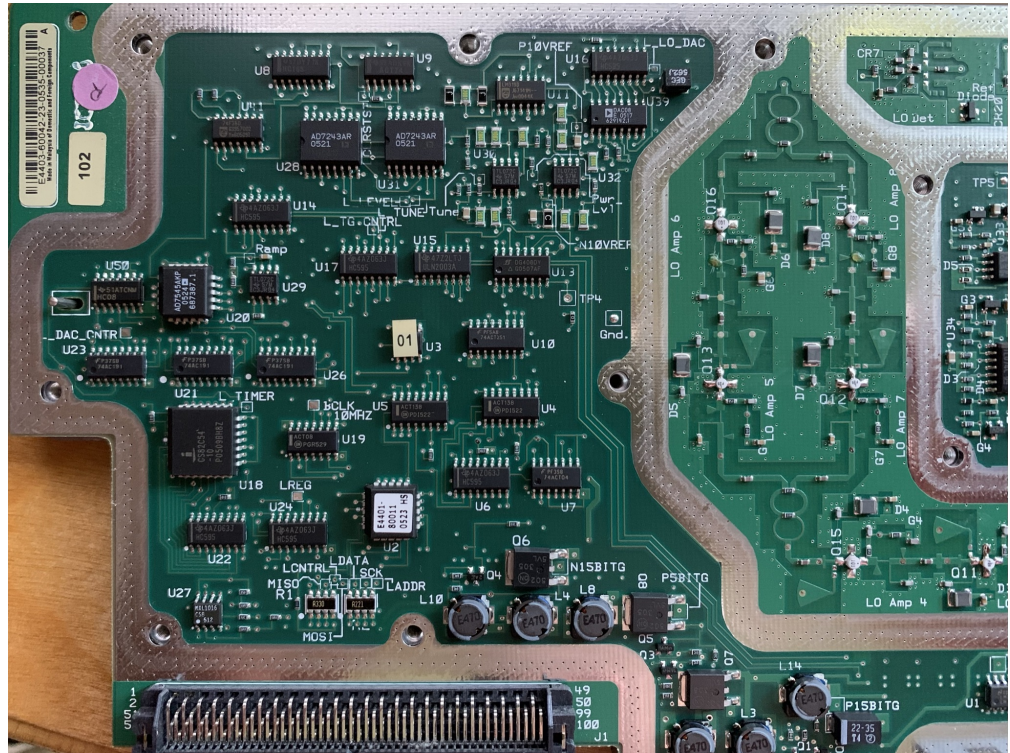
« Reply #23 on: August 02, 2020, 08:06:48 pm »

[Say Thanks](#) [Reply](#) [Quote](#)

So I did a comparison of a known good Flash SIMM and the one acting up
table below shows the comparison

All measurements done from Pin1 (Gnd) to each of the other pins

the only thing to shows is that the datalines all show a lower resistance but otherwise pins are consistent in my view yet the bad one does not work



2020-08-02_16-02-07.jpg (233.04 kB, 1861x474 - viewed 164 times.)

« Last Edit: August 08, 2020, 05:28:54 am by smgvbest »

[Report to moderator](#)

Sandra
(Yes, I am a Woman :p)

smgvbest
 Supporter

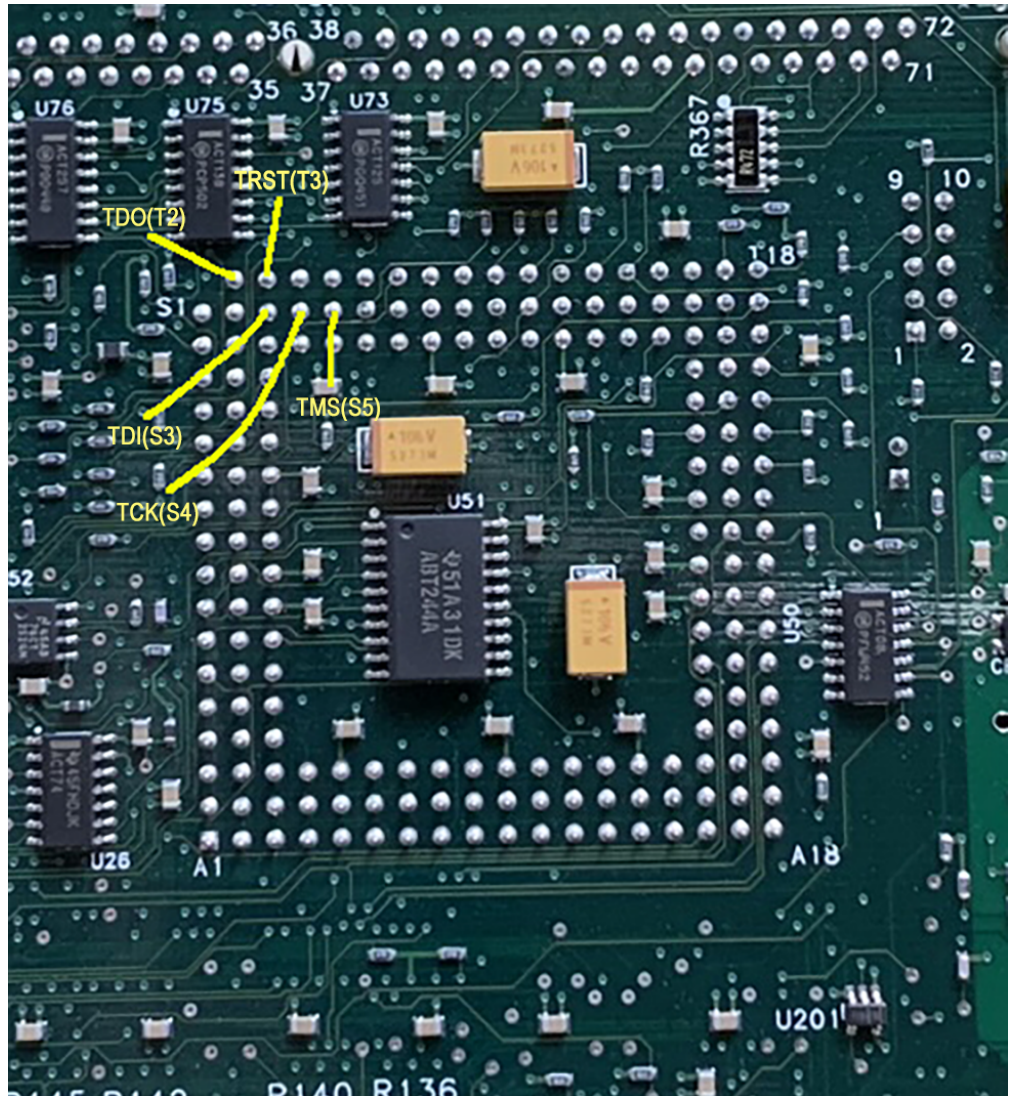
 Posts: 623
 Country:

Re: Agilent E4407B Repair , No Video
 « Reply #24 on: August 08, 2020, 05:25:41 am »

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While I was doing some other work I mapped out the JTAG PINS to find where you could tap in to the processor
 this is what I came up with

I dont' know what happened to all my inline photos but I had to go back thru and redo them all which is why everything is showing a update today



jtag_68040.png (1626.97 kB, 976x1068 - viewed 145 times.)

« Last Edit: August 08, 2020, 05:40:31 am by smgvbest »

Report to moderator

Sandra
 (Yes, I am a Woman :p)

analogRF
 Frequent Contributor

 Posts: 809
 Country:

Re: Agilent E4407B Repair , No Video
 « Reply #25 on: February 26, 2021, 03:08:41 pm »

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Quote from: smgvbest on August 02, 2020, 08:06:48 pm

So I did a comparison of a known good Flash SIMM and the one acting up
 table below shows the comparison

All measurements done from Pin1 (Gnd) to each of the other pins

the only thing to shows is that the datalines all show a lower resistance but otherwise pins are consistent in my view yet
 the bad one does not work

Sandra

did you ever fix the cpu board or the flash module?

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analogRF
 Frequent Contributor

 Posts: 809
 Country:

Re: Agilent E4407B Repair , No Video
 « Reply #26 on: February 26, 2021, 03:17:23 pm »
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so replacing U74 did not help, right?
what information do you think the U74 holds?

did you replace all of the flash chips on the flash module and still it didnt work??

« Last Edit: February 26, 2021, 03:42:50 pm by analogRF »

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perieanuo
 Frequent Contributor

 Posts: 825
 Country:

Re: Agilent E4407B Repair , No Video
 « Reply #27 on: February 26, 2021, 03:35:46 pm »
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Quote from: smgvbest on August 01, 2020, 01:00:52 pm

Xgecu released 10.29 of the software and added the flash support I requested.
I did confirm the flash on the CPU board was bad, I did a multiple Read/Erase/Program/Verify on it and after 1 pass it failed.
The flash from the SIMM was OK. But that Simm module still has problems. if its put in I get the same original problem back
so any condition where the flash is as an issue results in same behavior

the board is fixed but that SIMM still causes problems
it's hard to find the SIMMs anywhere and Keysights current price is \$506

I'm going to compare a known working SIMM to the one not working next and see if there are any differences.

if you got bad fw for main uC, you expect to trick the other chips inside written by the uC with fw loaded from a bad chip???

i don't get what you did, you have written the bad flash in external programmer, put it back in his place and then reflash the SIMM flash?

that was the correct steps, but you're unclear

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smgvbest
 Supporter

 Posts: 623
 Country:

Re: Agilent E4407B Repair , No Video
 « Reply #28 on: February 26, 2021, 10:12:02 pm »
 Say Thanks Reply Quote

Quote from: analogRF on February 26, 2021, 03:17:23 pm

so replacing U74 did not help, right?
what information do you think the U74 holds?

did you replace all of the flash chips on the flash module and still it didnt work??

What mine ended up being was bricked. it wasn't a flash issue but a really bad attempt at flashing it apparently give same response code as a bad flash chip
once I did a full clear of flash and memory using the switch method on the cpu board it started reading my floppy escalader disc and then it took the firmware load.

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Sandra
(Yes, I am a Woman :p)

analogRF
 Frequent Contributor

 Posts: 809
 Country:

Re: Agilent E4407B Repair , No Video
 « Reply #29 on: February 26, 2021, 10:15:14 pm »
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so you think the original U74 and the flash SIMM were OK?

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analogRF
 Frequent Contributor

 Posts: 809
 Country:

Re: Agilent E4407B Repair , No Video
 « Reply #30 on: March 03, 2021, 12:13:50 am »
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Finally after a couple of month, I found some time to see what is wrong with this E4405B that I got
It does not boot. The backlight comes on which is pretty dim I think and stays on, fan is running. The floppy light never blinks
and I need to pull the plug to power it off.

I opened the case and turned it on. All the RED LEDs turn on and stay on (DS7-DS13) and the Green LED (DS1) which is marked as HRT BT stays on and does not blink so no heart beat 🙄🙄

5V supply is present on the CPU board and I can only check -12V and +15V are present on the front panel probe power connector. There is no place to check the power supply voltages, right?

according to the SM, DS7-DS13 all on means "start of the test" so it does not even get to bootrom checksum apparently.

anybody has any idea? any hint?

EDIT: the unit had never been opened since its last Cal. all seals were absolutely intact. So something failed on its own and I am the first one in

« Last Edit: March 03, 2021, 12:15:46 am by analogRF »

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analogRF

Frequent Contributor



Posts: 809

Country:



Re: Agilent E4407B Repair , No Video

« Reply #31 on: March 03, 2021, 07:49:08 pm »

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CPU has clock and is not in RESET...so I am about to run out of ideas... any suggestions?

working on the CPU board is a pain in the a** and pretty much impossible for the most parts, so nothing much can be done in terms of measurements

I tried to figure out what kind of connectors attach it to the motherboard and tried to find jumper ribbons with those type of connectors to bring out the CPU board but they cannot be found...each has 100 pins

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analogRF

Frequent Contributor



Posts: 809

Country:



Re: Agilent E4407B Repair , No Video

« Reply #32 on: March 05, 2021, 12:06:28 pm »

[Say Thanks](#) [Reply](#) [Quote](#)

Does anybody know what exactly means when all LEDs are ON and stay on? even DS1 (HRT BT)? can it be the CPU is dead?? I have seen many many non booting instruments but dead CPU I have never encountered.

I think it must be something else...

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smgvbest

Supporter



Posts: 623

Country:



Re: Agilent E4407B Repair , No Video

« Reply #33 on: May 05, 2021, 11:05:43 pm »

[Say Thanks](#) [Reply](#) [Quote](#)

Sorry I am way late on this. been having a bad time with my back. just has a SCS implant done so hopefully life will be getting better soon

All the LEDs on is the start of the Self Test. So it's' not getting past that point the Service Manual has this starting on Pg37 with some other basic tips.

what brought mine back to life with a full clear of FLASH and SRAM memory. But mine was in a different state than yours

Again sorry I did not reply sooner

BTW, you can supply power to the card outside the machine and hook up the serial port on the card to see it booting. allows for testing outside the SA once it's' past the all LEDs out point and DS1 flashing you can put it back in

Sandra

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Sandra
(Yes, I am a Woman :p)

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