

Health & Safety Induction

Department of Electrical, Computer & Software Engineering (ECSE)



ENGINEERING

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ECE Undergraduate Lab Health and Safety ▶ Home

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Monday 11 March 10am-12pm

Tuesday 12 March 8-10am

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Wednesday 13 March 8-10am

Thursday 14 March 8-10am

New Session

ECE Health

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Sign-in

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Emergency Services **111**

To call in from a mobile **0800 3737550**

Security extn- Rapid response **966**

Security direct dial - Non Urgent **09 9235000**



The screenshot shows the University of Auckland Engineering website. At the top, there's a blue header bar with the university's logo and name. Below it, the main page has a blue background with white clouds. On the left, there's a sidebar with links like 'ECE Undergraduate Lab Health and Safety' and a search bar. The main content area features a large title 'ECE Undergraduate Lab Health and Safety' and a 'Home' link. To the right, there are social media icons for 'I Like It', 'Tags & Notes', and a magnifying glass for search.

ECE Undergraduate Lab Health and Safety

ECE Undergraduate Lab Health and Safety

Search this site...

I Like It Tags & Notes

Welcome to ECE Health and Safety Site

Lab Sign-In form

Form submitted successfully.

Lab Induction Completion Form

Edit

FormStatus

StudentName

LabSession

Created



StudentSignOff

Monday 11
March 10am-
12pm

8/03/2019 9:34 a.m.

Emergency Services	111
To call in from a mobile	0800 3737550
Security extn- Rapid response	966
Security direct dial - Non Urgent	09 9235000



Action to take in Emergencies

- Evacuate building as soon as fire alarm
- fire wardens (orange jacket) can help you

Fire



- First Aid Kits available in labs
- First Aid trained staff
- Call 111 for Emergency services

Medical Emergency



- Call Security
 - 966
 - 0800 373 7550
- Report accident or request help out of hours.

Inappropriate Behaviour





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Basic Safety Rules

- No Food
- No Drinking except sipper bottles
- Enclosed shoes MUST be worn
- No bags on benches
- Use protection equipment while soldering
- Contact Lab Supervisor if RCDs get tripped
- Read laboratory Code of Conduct

ROOM LOCATION: 303.155			
<p>Moderate Risk Labs</p> <p>Code of Conduct</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; vertical-align: top;"> Emergency Services To call in from a mobile Security extn - Rapid Response Security direct dial - Non Urgent </td> <td style="width: 40%; vertical-align: top; text-align: right;"> 111 0800 3737550 966 09 9235000 </td> </tr> </table>	Emergency Services To call in from a mobile Security extn - Rapid Response Security direct dial - Non Urgent	111 0800 3737550 966 09 9235000
Emergency Services To call in from a mobile Security extn - Rapid Response Security direct dial - Non Urgent	111 0800 3737550 966 09 9235000		
<p>1. Action to take in emergencies</p> <p>Fire: Major incident: Medical emergency: Inappropriate behaviour:</p> <p>Leave the building and assemble on Princes Street Call Emergency Services and tell the acting Head of Department Call Emergency Services and get a Technician or other First Aider Automated external defibrillator (AED) located at the 303 Level 1 concourse Call Security or Emergency Services</p> <p>Department staff with First Aid training: Kavitha Penneru – ext. 87378 (Located in ECE Component Store, 303.260) Sunita Bhide - ext. 89097 (Located in 303.155A)</p> <p>2. Lab induction and safety</p> <p>To use this lab you must first have completed the Lab Health and Safety induction. You must also make yourself aware of the hazards present by reading the list posted on the wall. You are responsible for your safety and that of others and you must report any hazards to a member of staff. If you have an accident or near miss, you must immediately report it to your lecturer or Lab supervisor.</p> <p>3. Equipment for your protection</p> <p>If this lab is equipped for practical electrical work, enclosed footwear must be worn. This lab may have soldering work stations; when using these you must wear safety glasses or goggles.</p> <p>4. Portable Appliance Test (PAT) tags</p> <p>Appliances and mains leads in this lab should be tested annually. Do not use equipment with an out-of-date test tag. Furthermore, do not use untested personal electrical devices in the lab.</p> <p>5. Scope of work allowed</p> <p>If this lab is equipped for practical electrical work, do not work with DC voltages above 60 volts or with AC voltages above 50 volts.</p> <p>6. Lone working</p> <p>If you find yourself working alone in this lab you must tell Security where you are and you must tell them when you leave.</p> <p>7. No eating and drink only water</p> <p>There is absolutely no eating in the lab. Food waste makes the lab a mess and can damage the equipment. Water is only allowed in sipper bottles and should not be on the bench.</p> <p>8. Do not misuse the computer network or lab equipment</p> <p>Do not use unauthorised software, play computer games or watch entertainment videos. Do not let other people use your login credentials. Equipment must be used according to the manufacturer's recommendations and must only be removed from the laboratory by the IT Group or the Technician in charge.</p> <p>9. Keep the laboratory clean, tidy and quiet</p> <p>Keep your work area clean and tidy and return tools to their proper place. Keep instrument accessories with the instrument or in a cabinet. Use the bins provided for waste paper and circuit waste. Make sure that others can concentrate on their work by keeping noise to a minimum. It is acknowledged that this may be difficult when engaged in technical discussions or group work.</p> <p>10. Lab Access</p> <p>You are not permitted to be in the laboratory unless your access card gives you access. Furthermore you are not allowed to admit anybody who does not have permission to be in the laboratory. Students who are permitted to be in this lab need to sign up to this Code of Conduct to gain General Approval for access at the times below: 7am to 10pm (midnight in UG4) on weekdays and 7am to 10pm (midnight in UG4) at the weekend.</p>			

Version11 created on 24/02/2017

Lab Rules



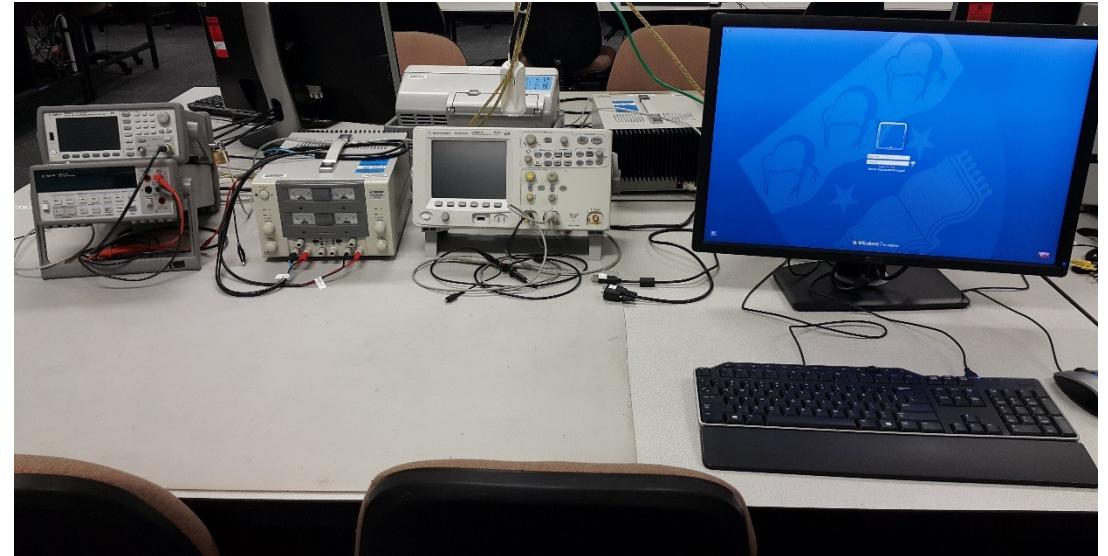
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- Permitted in lab if your Access Card permits you
- Hours of Access: **7am-10pm** for UG labs
- Behaviour
 - Playing games with lab computer is not professional
 - Listen to music but using headphones!
 - No loud and social discussion please
 - Please do not leave the computer locked
- Cleanliness
 - Keep the workbench area clean and tidy
 - Use the bins provided for waste paper and circuit waste only

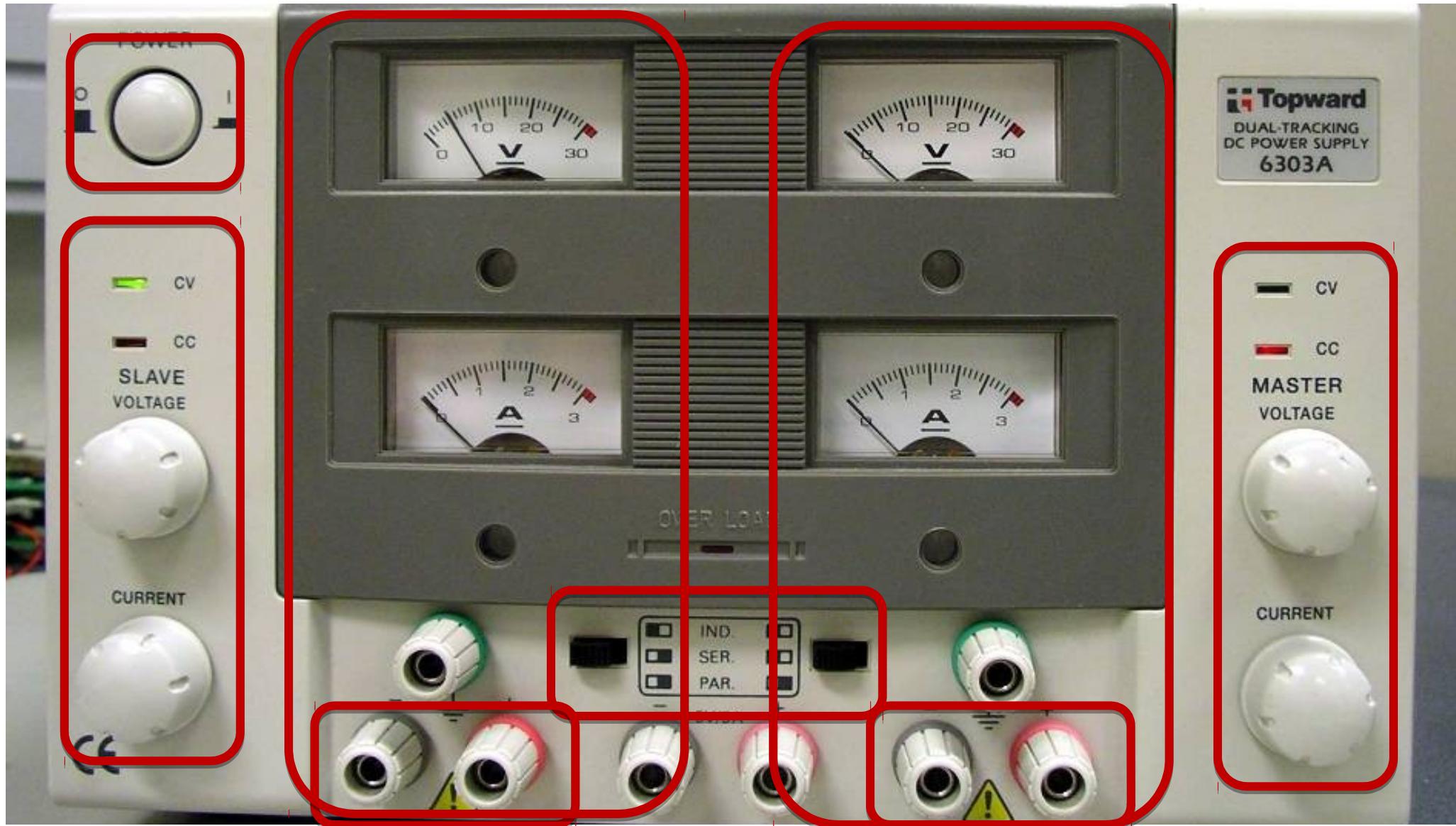
Lab Overview

Undergraduate labs equipped with stations which include:

- Computer, serial cable, USB B & USB micro cable
- Power Supply
- Oscilloscope
- Function Generator
- Multimeter
- Probes and test leads
- Component Drawers
- Soldering Stations



Equipment - Power supply



Equipment - Power supply

- Power supply generates a constant DC voltage.
- UG labs power supplies are Dual tracking (Master & Slave)
- It can be set up in 3 different mode:
 - Independent: Master and slave can be used independently to generate voltages.
 - Serial: Output voltage twice set master output voltage while max output current same as the master setting value
 - Parallel: Max output current twice set master current while the output voltage is the same as the master setting value.
 - No matter which mode is set, 5V/5A supply is independent and generate 5V at up to 5A.

Note: The earth port is connected to the power supply chassis, so don't use it as ground for your circuit.



Modes:

Independent	up to 30V, 3A
Serial	up to 60v,3A
Parallel	up to 30V,6A

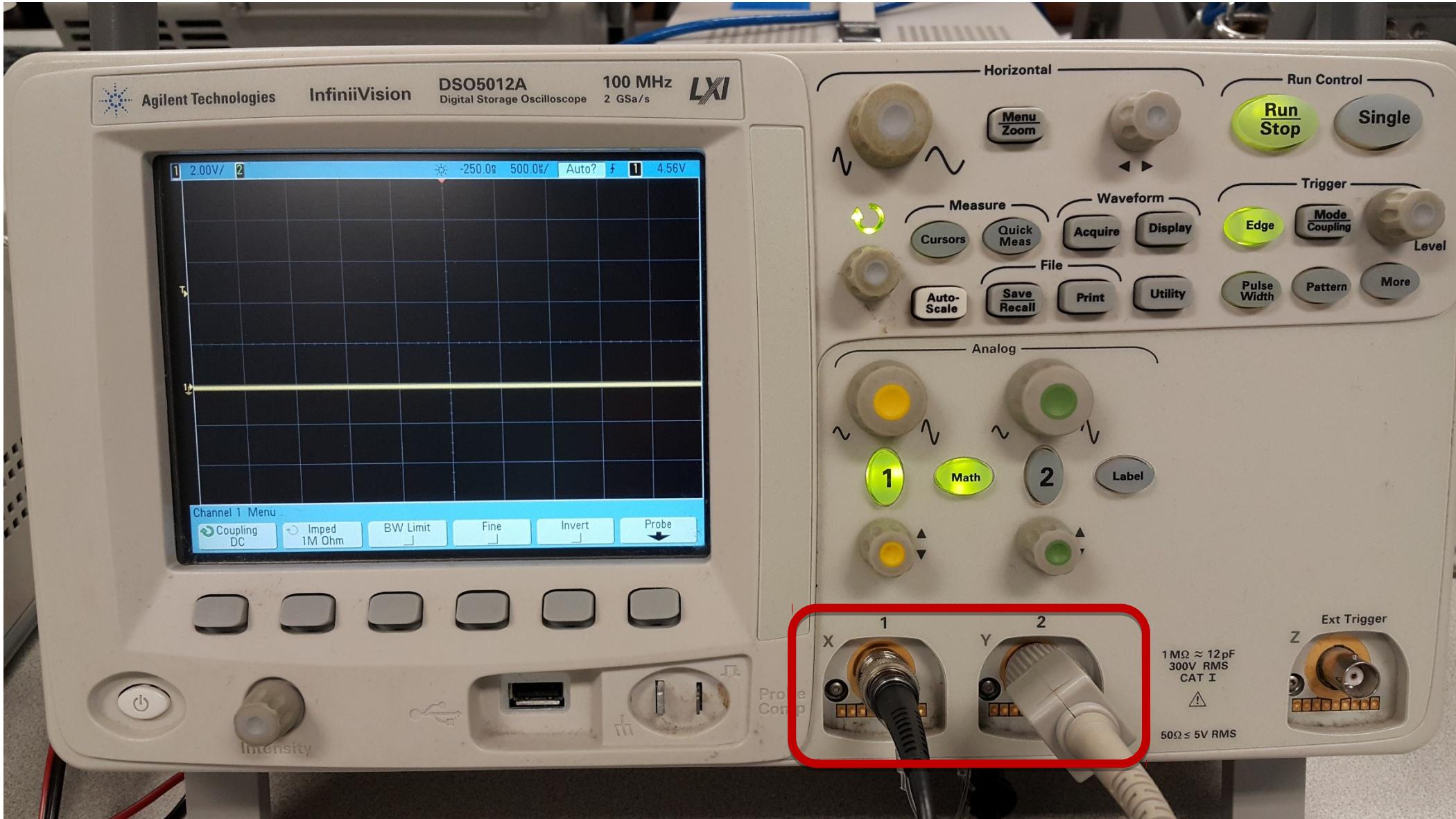
Exercise: Power supply

1. Disconnect the cables, turn knobs anticlockwise as far as they will go: easy way to ensure no damage
2. Select the mode (commonly Independent)
3. Power up and make sure all the needles show 0 and red CC light is on.
4. Turn the current adjustment knob slightly clockwise until the CC light goes off and CV light goes green.
5. Select the desired voltage (5V) by turning the voltage knob clockwise.
6. Connect the leads to ports and connect other side of leads (Red and Black leads) together.
7. Turn the current knob clockwise and set 0.5A (500mA): CC (red) light still on
8. Separate the black and red lead. The green CV light should be on and red CC should be off.



For all devices in the labs:
 Black lead colour: Negative
 Red lead colour: Positive

Equipment - Oscilloscope



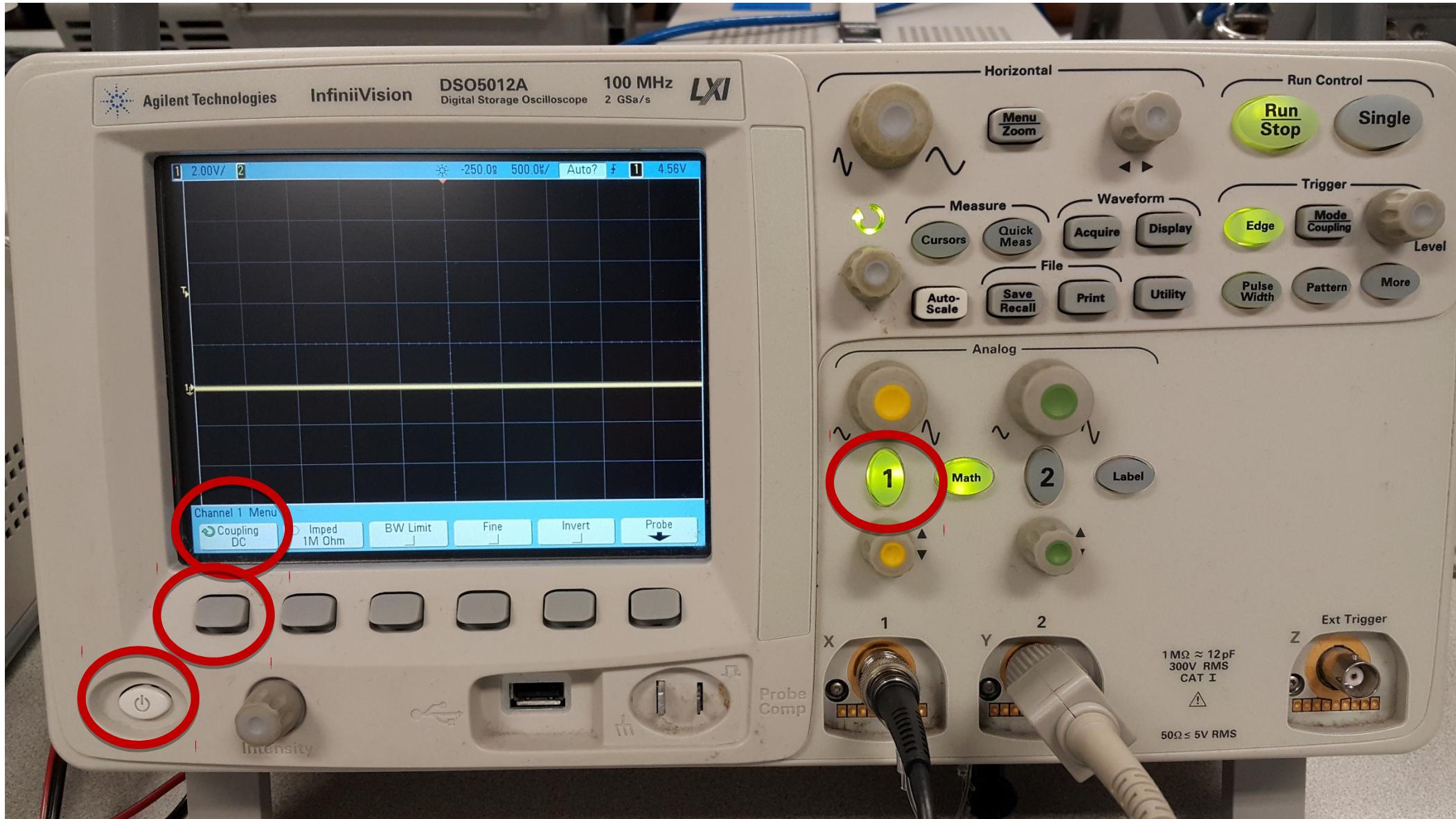


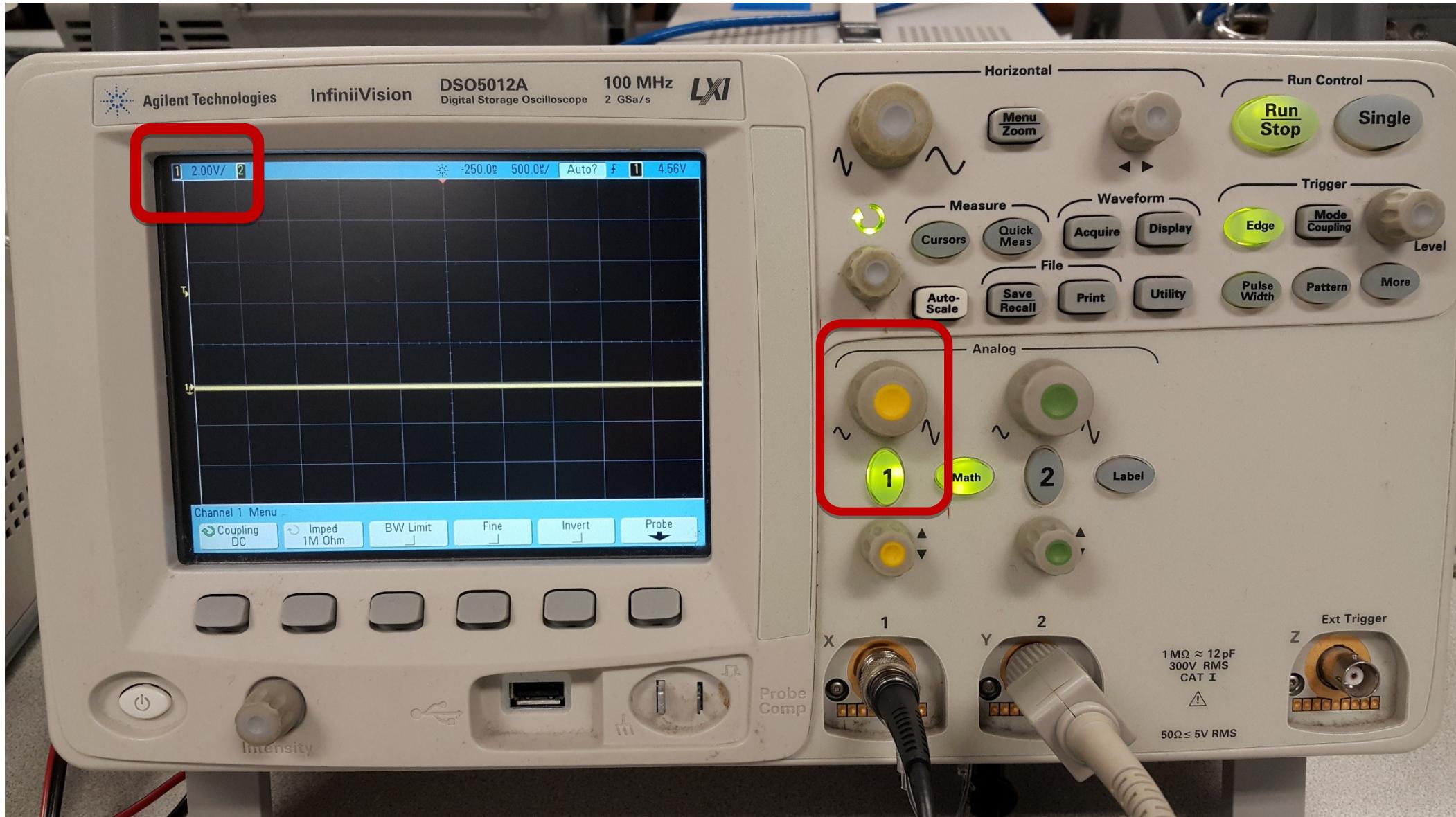
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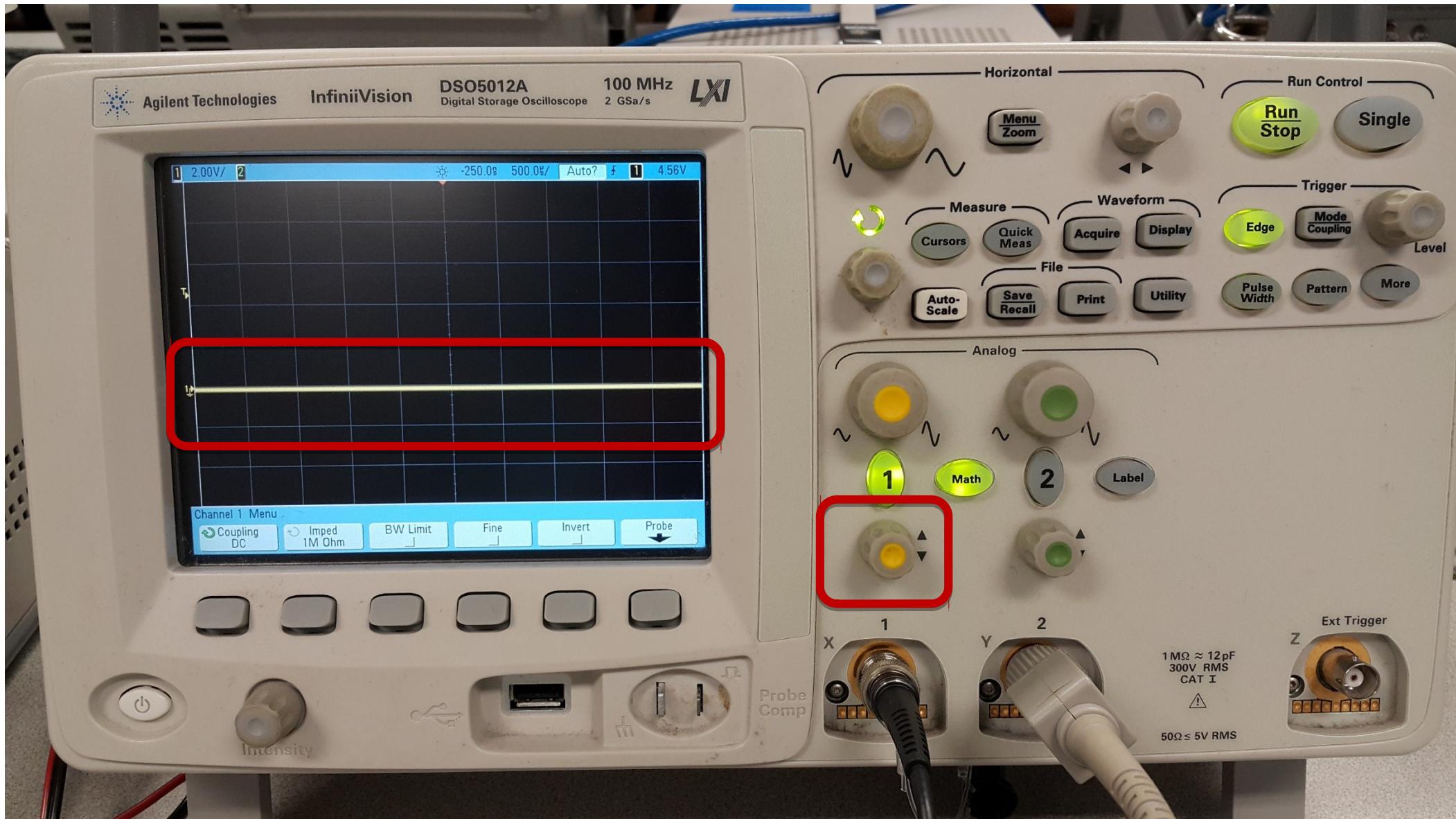
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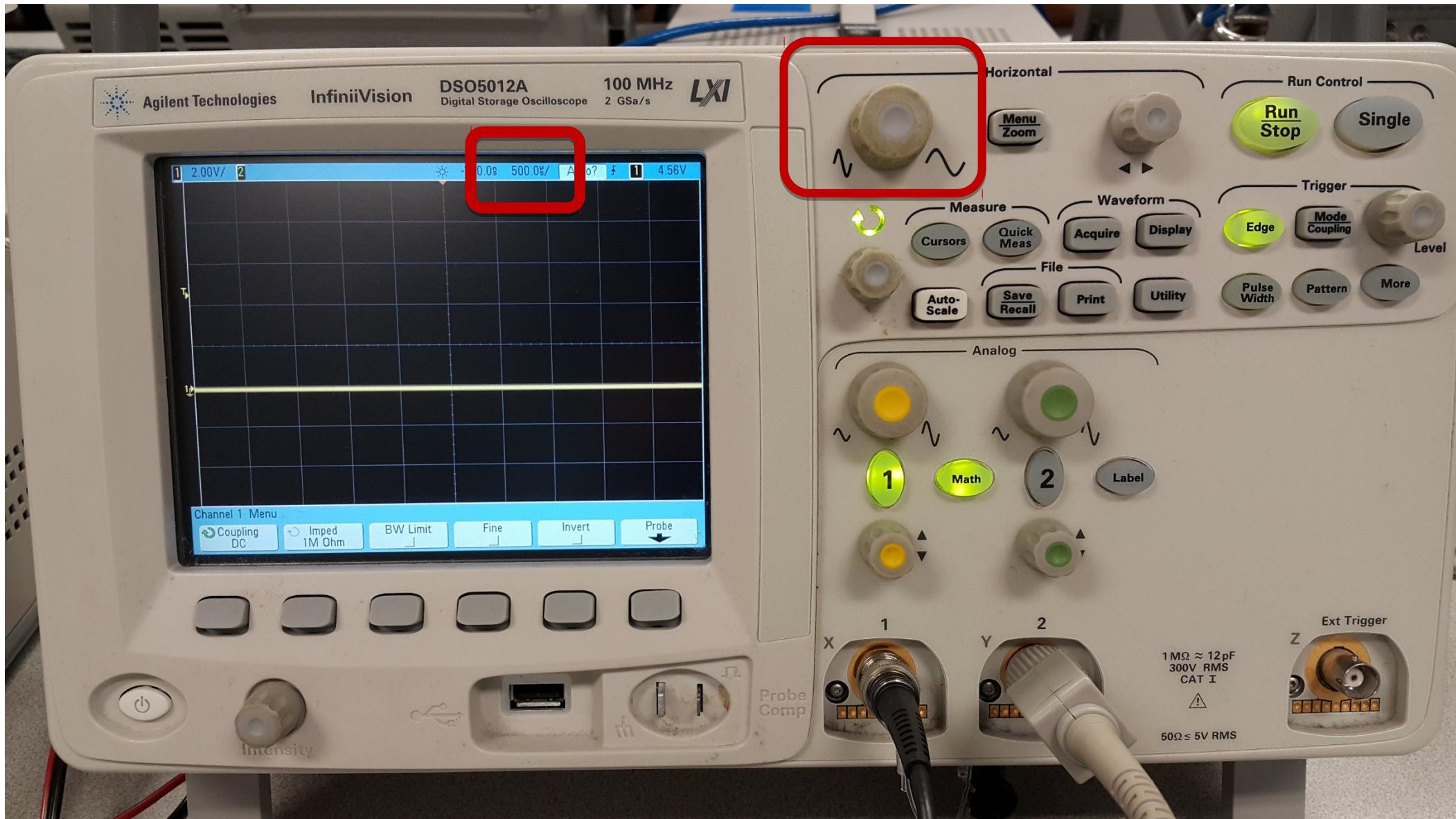






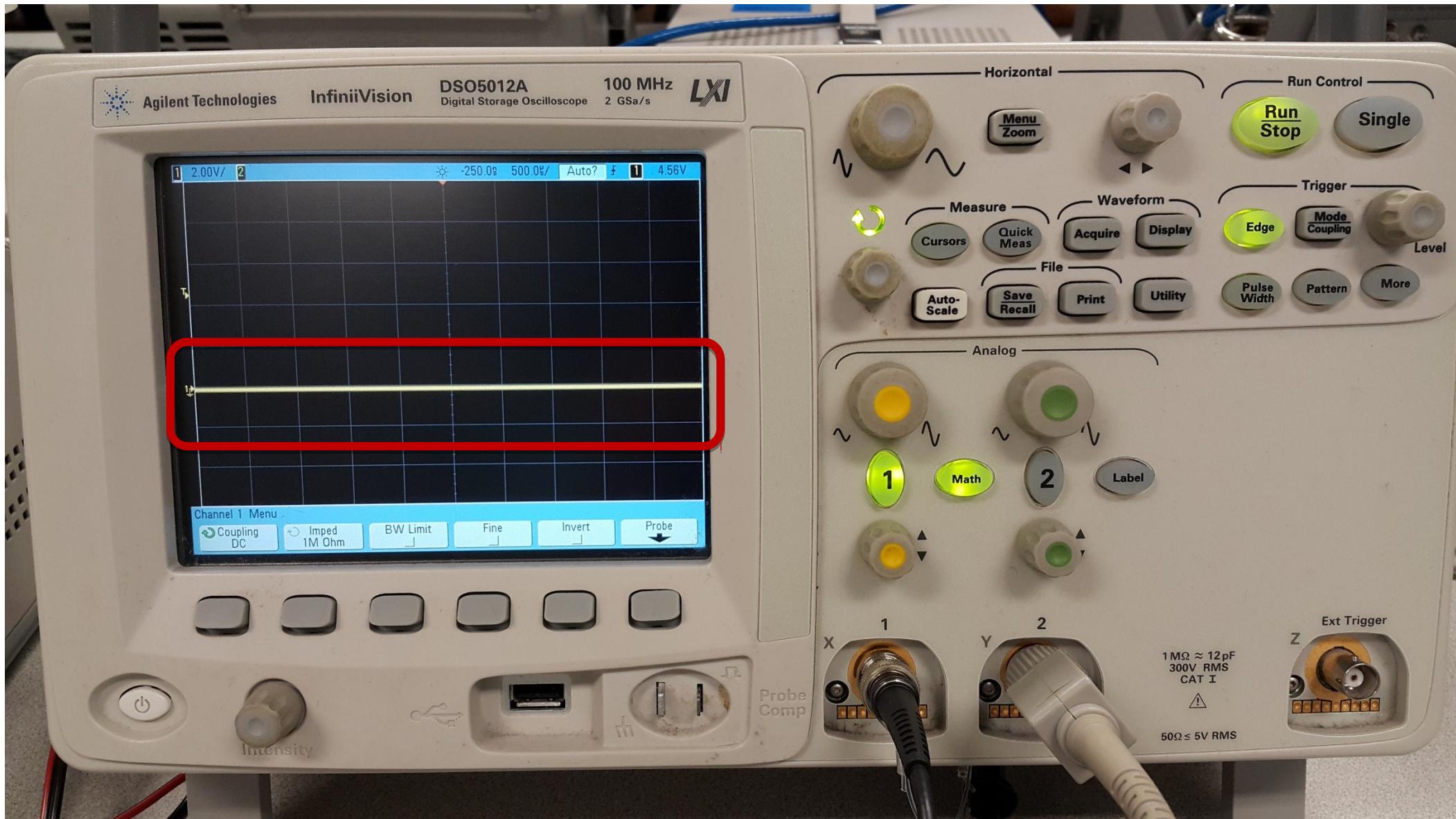






Task 1

- Turn on the bench top power supply and set the voltage at 5V.
- Connect the black lead of power supply to ground lead of oscilloscope probe.
- Connect the red lead of Power supply to main oscilloscope probe head. (you may push the cap down to let the little metal clip to appear)
- Do the required setup for corresponding oscilloscope channel.
- Measure the voltage using the grids on the screen.

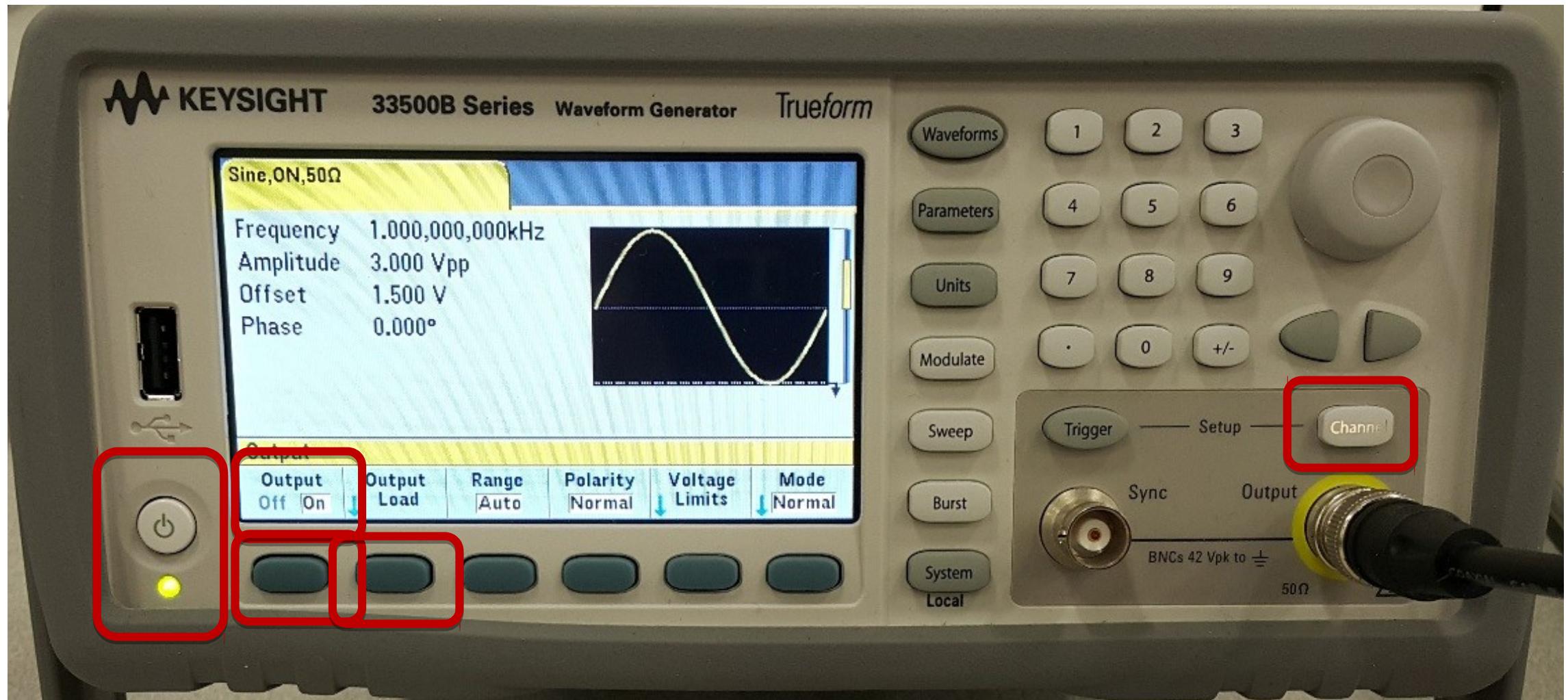


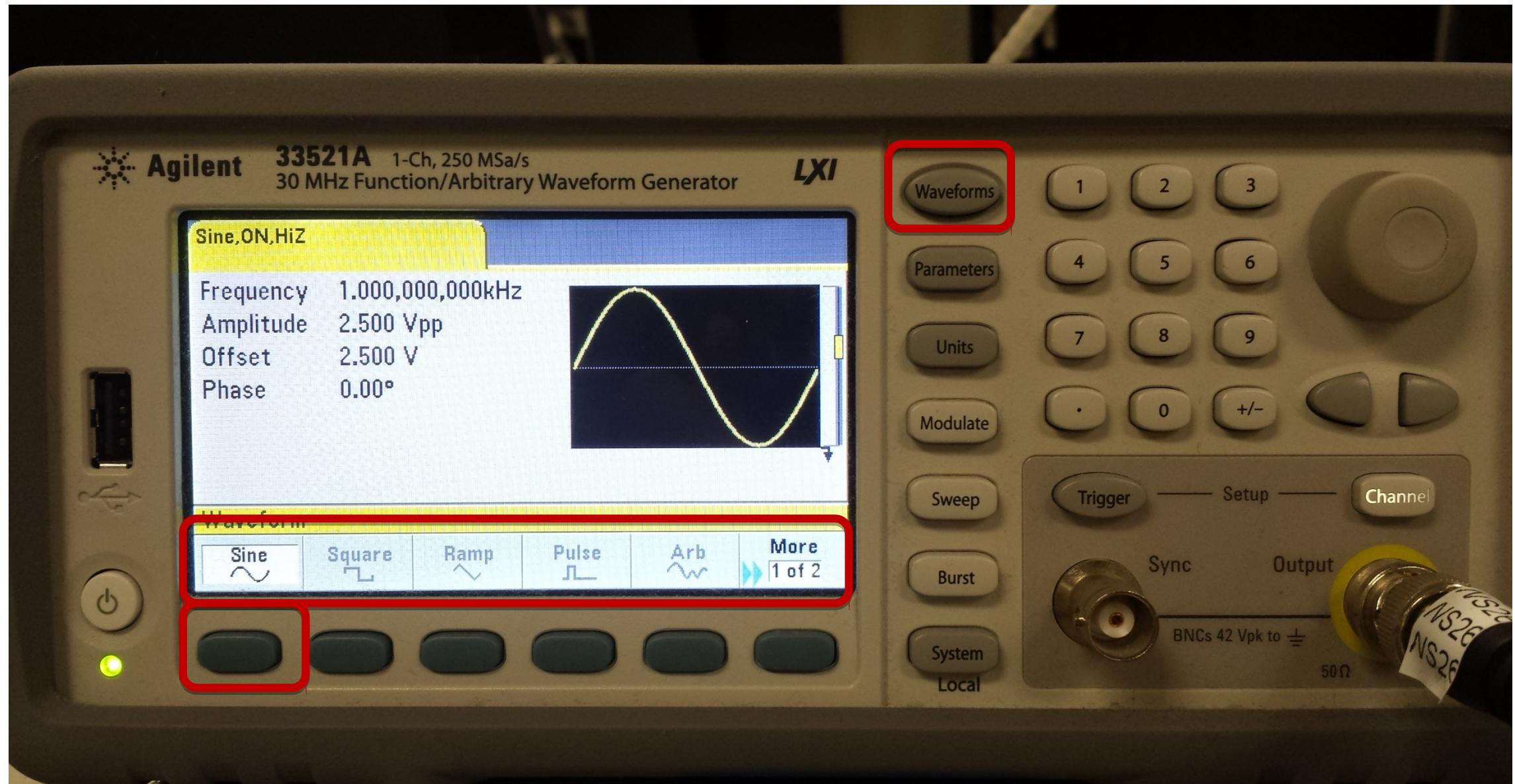
Equipment - Function Generator

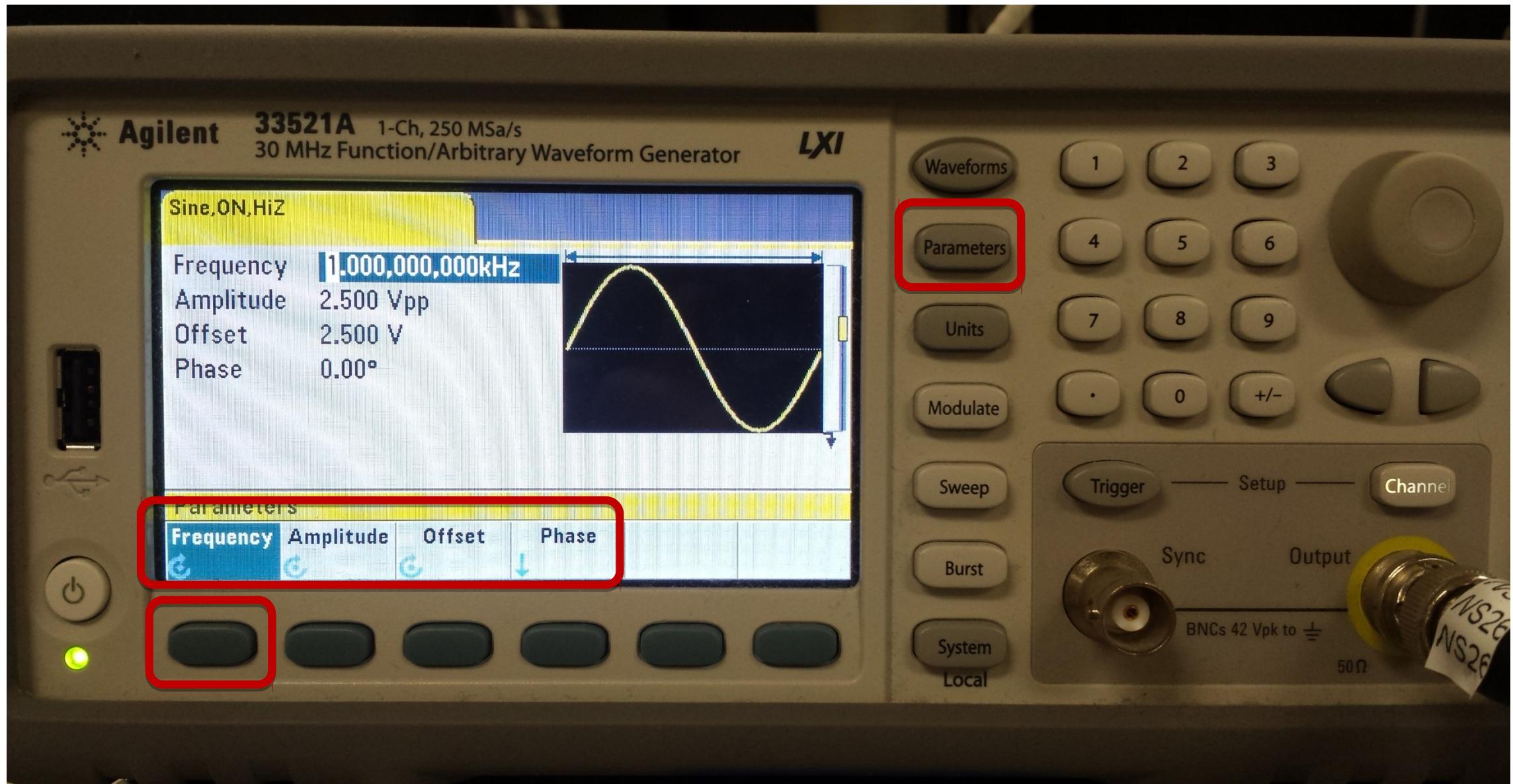


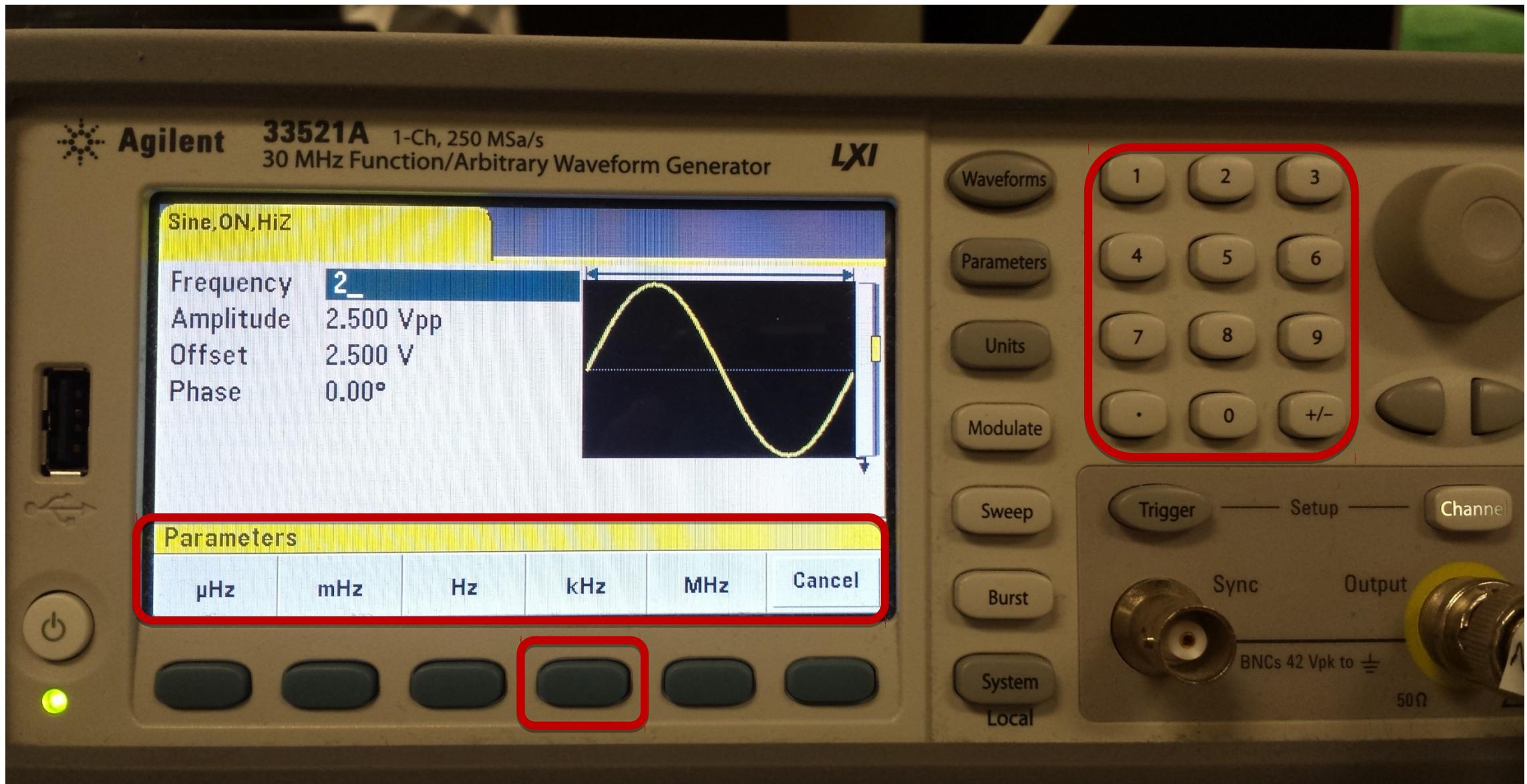
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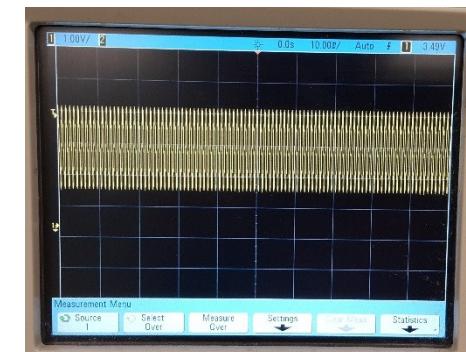
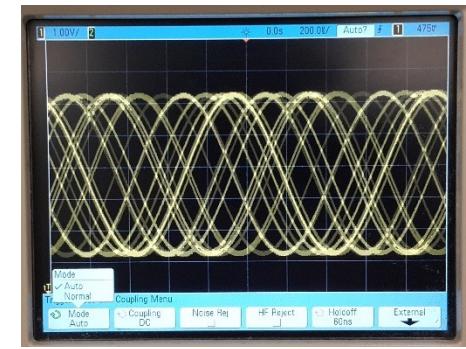
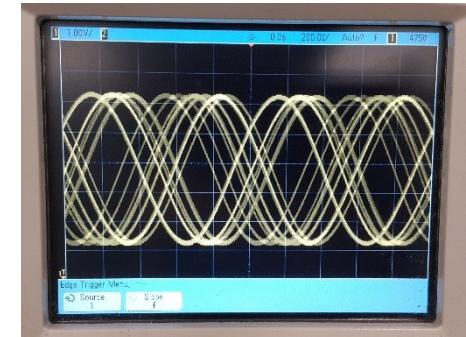


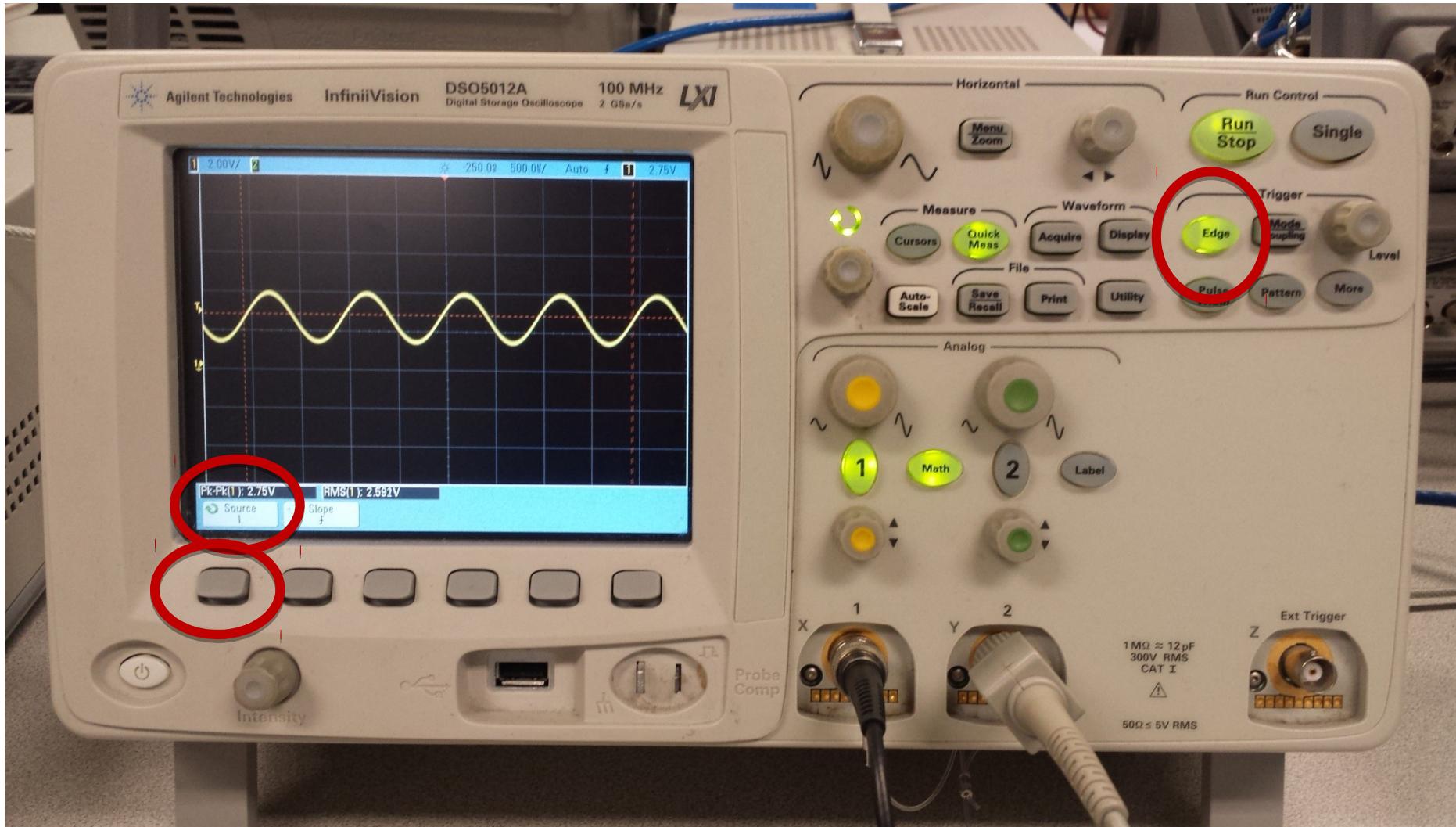


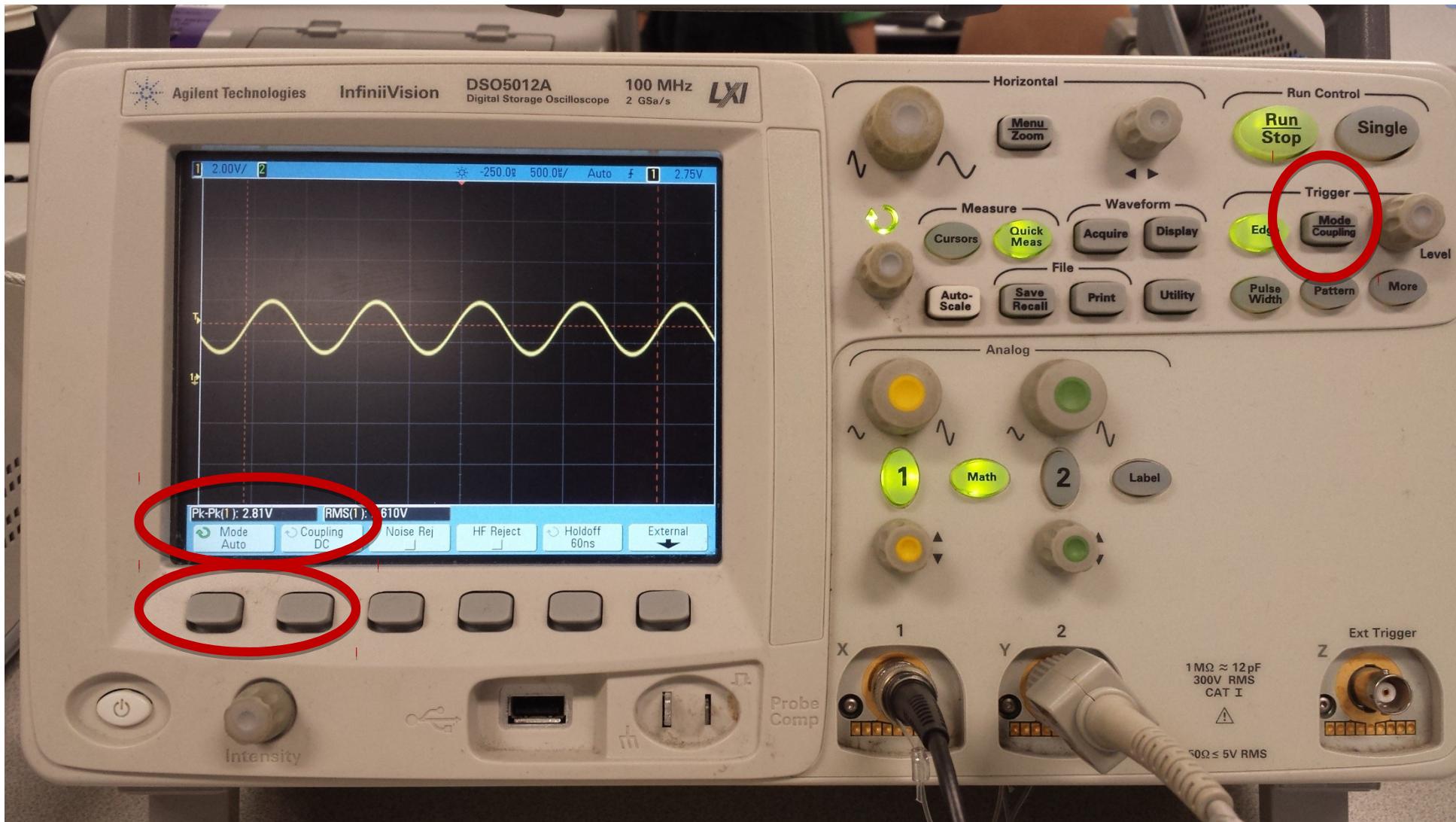


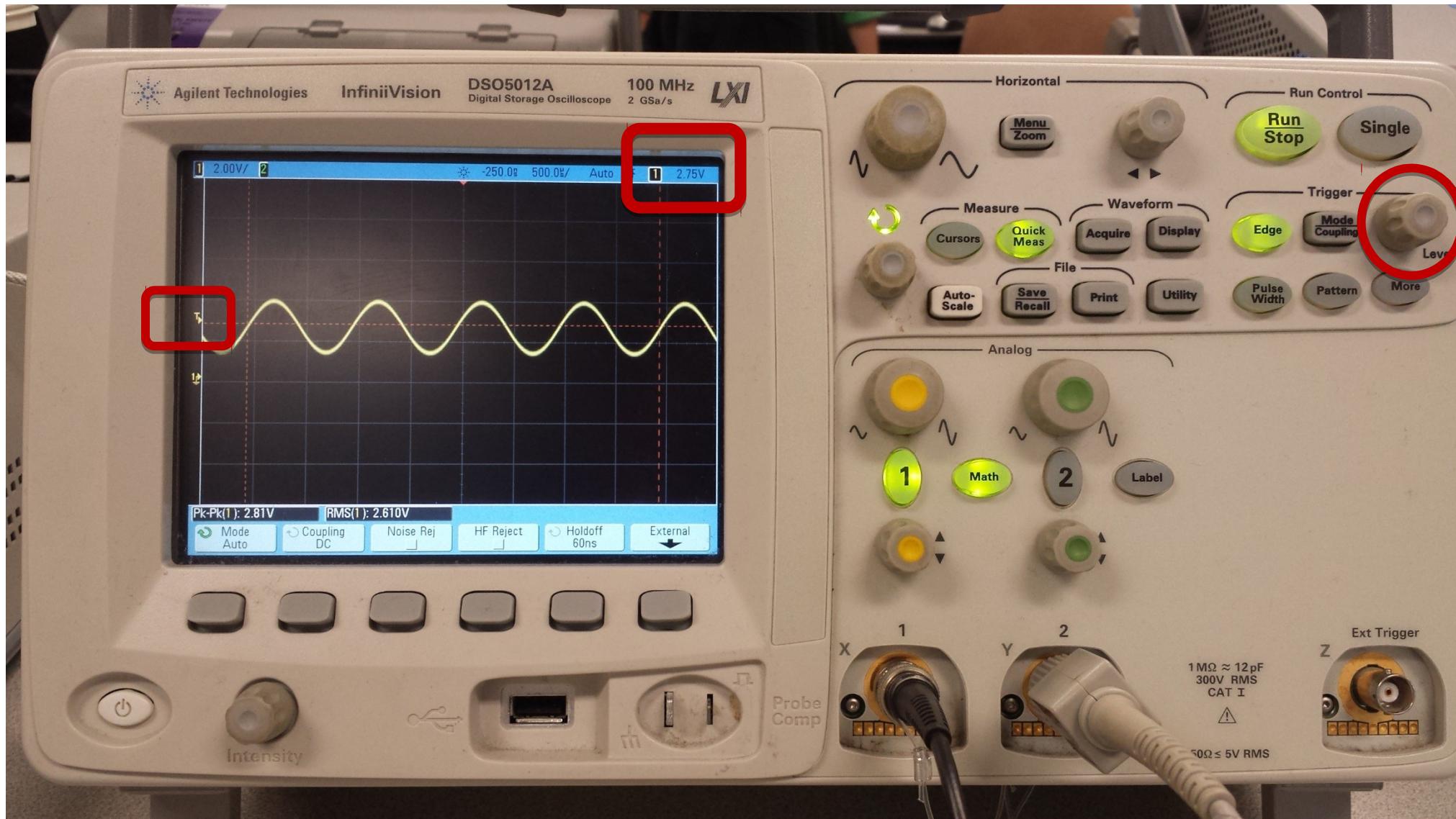
Task 2

- Set the function generator to a 1 KHz sine wave, 2.5V peak-Peak, with a 2.5V DC offset. Make sure the channel output is on.
- Connect the F.G. leads to oscilloscope accordingly.
- You may observe a change on oscilloscope screen which should be synchronized to be able to see it: Triggering
- Press the ‘Edge’ button in ‘Trigger’ section and set the ‘source’ 1.
- Press ‘Mode/Coupling’ button and set the mode to ‘Auto’ and coupling to ‘DC’
- Now we need to adjust the trigger voltage. Turn the ‘Level’ knob and set the horizontal line with a ‘T’ at left between 1.25-3.75V trigger level for our exercise (generally middle of signal range).





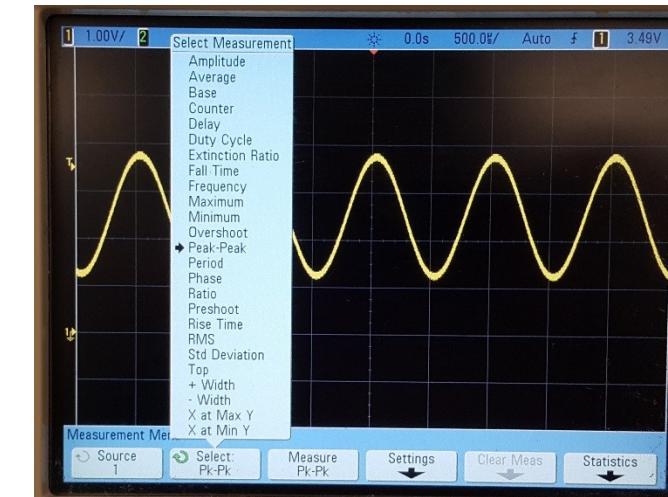
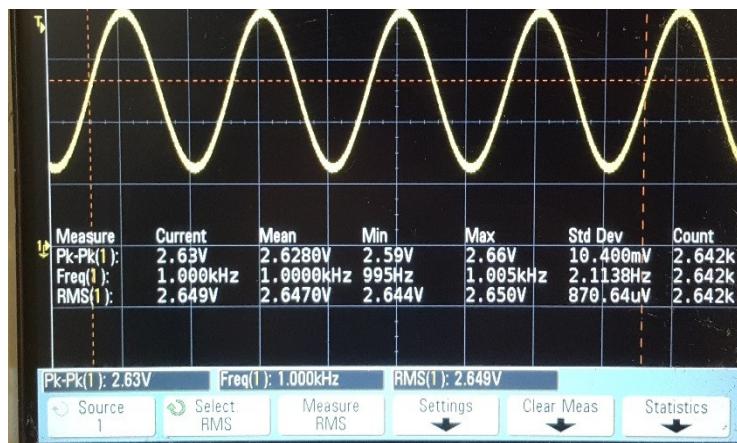
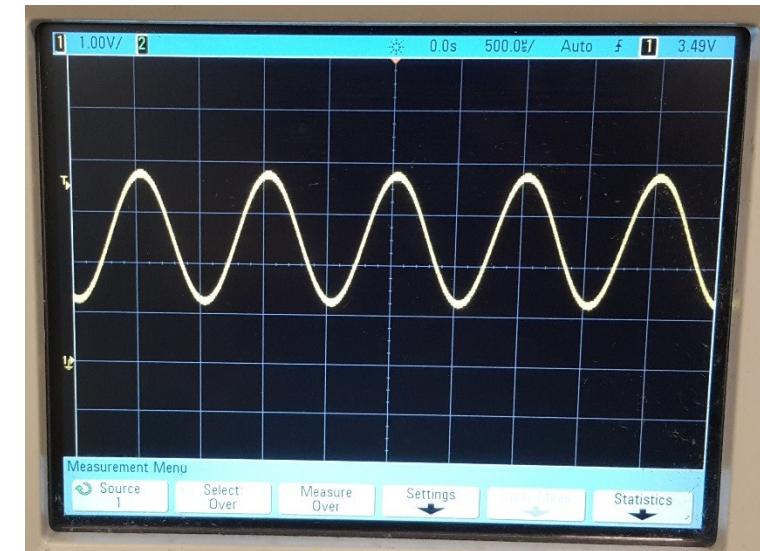


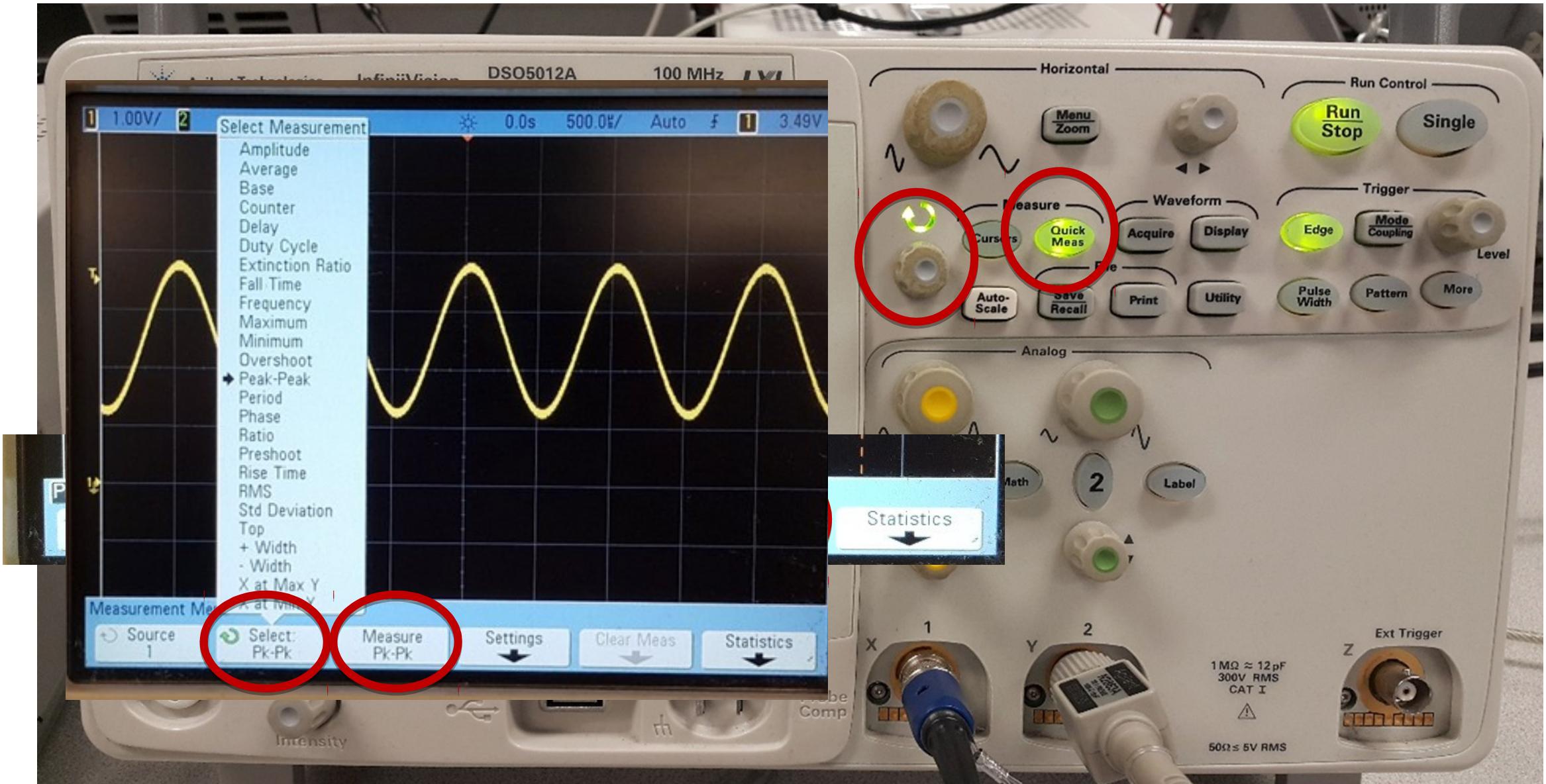




Task 2 _ continued

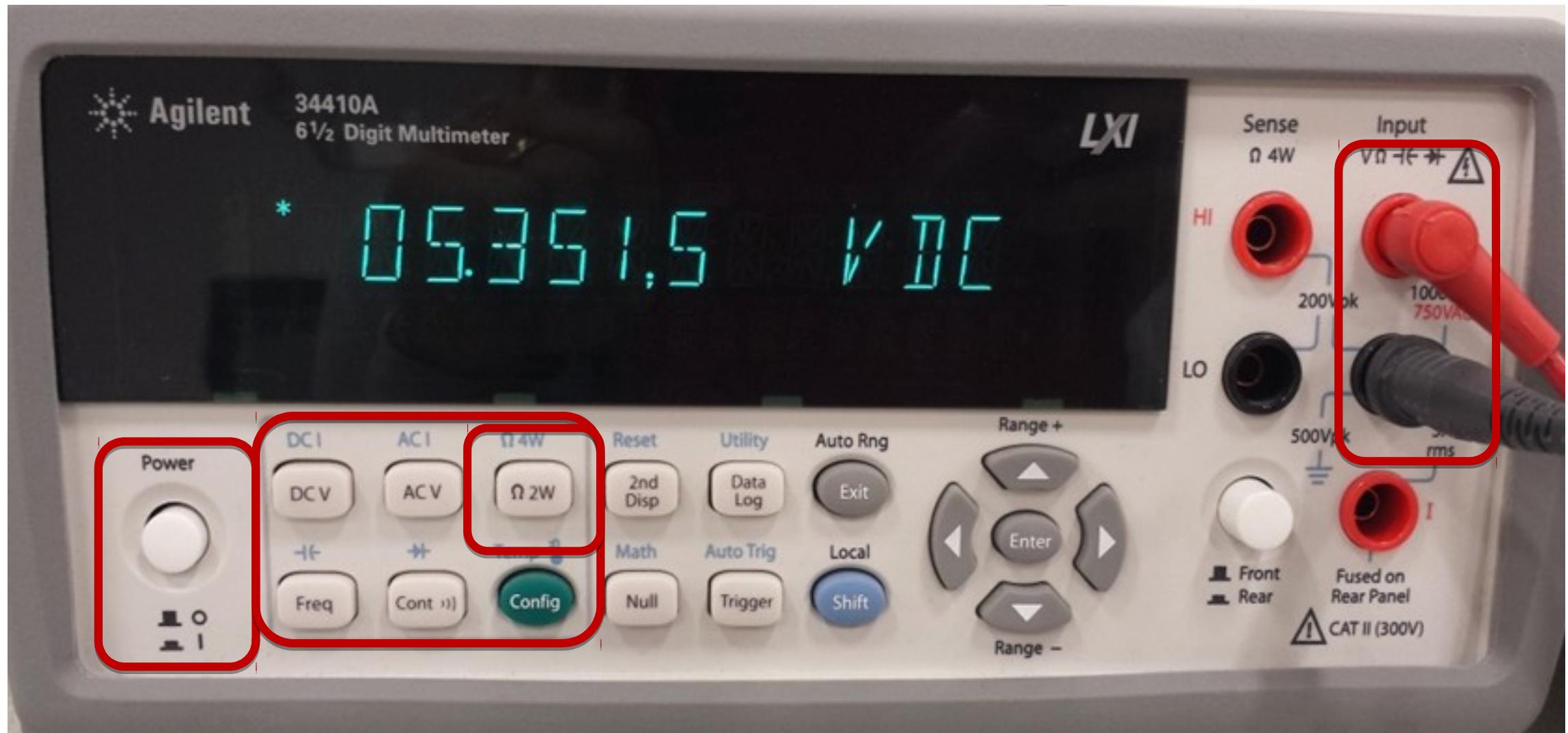
- Now, to measure the signal values:
 - Press 'Quick Meas' in Measure section.
 - Press 'Clear Meas' -> 'Clear All' to remove old values.
 - Press 'Select' and choose 'Peak-Peak' using Entry Knob 
 - Press Measure 'Pk-Pk'
 - Write down the values in your lab sheet.
 - Repeat step 3, 4 and 5 for 'RMS' and 'Frequency'







Equipment - Multimeter

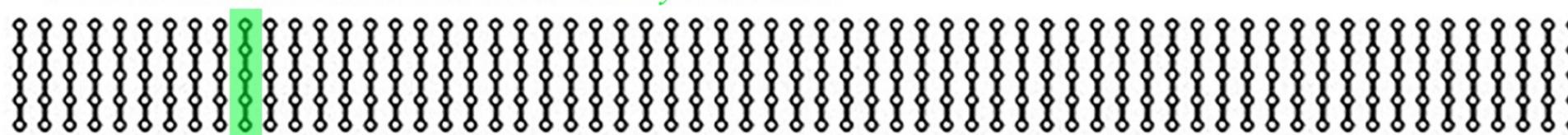
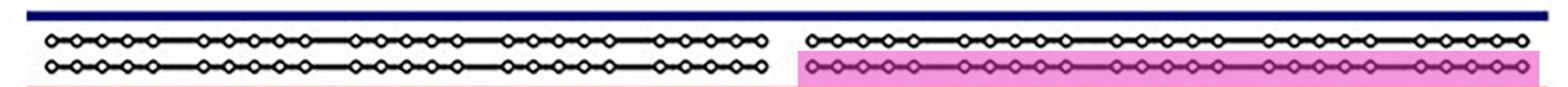
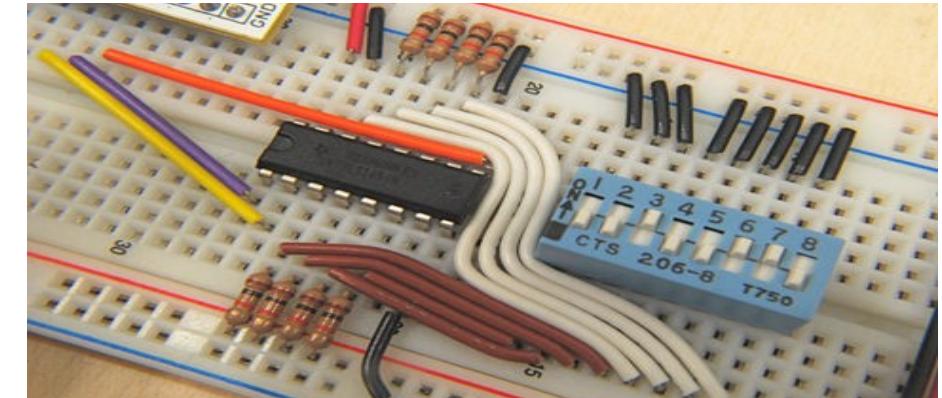




- **Bread Boards:**

Platform to make the prototype designs.

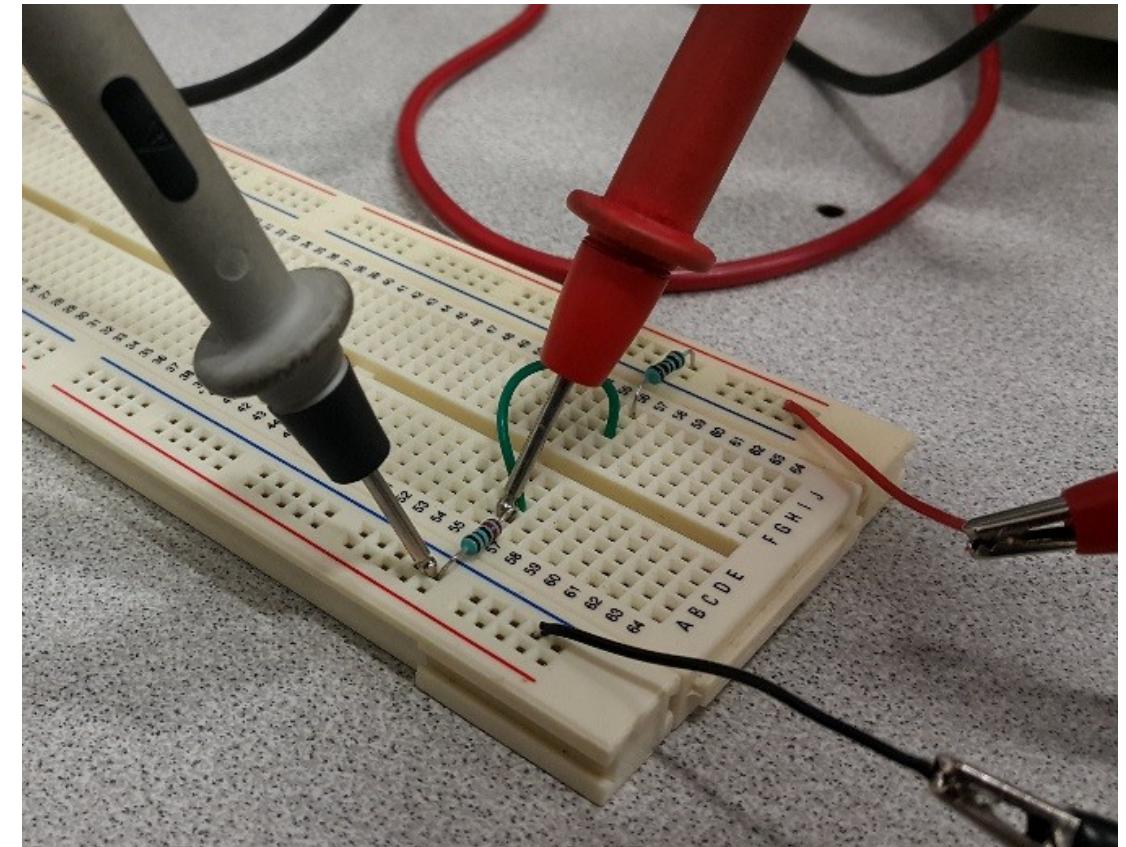
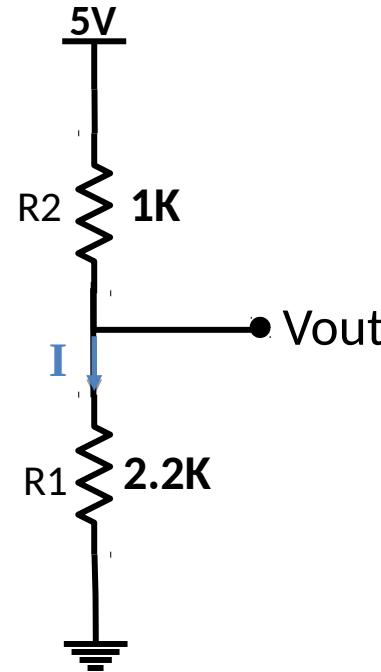
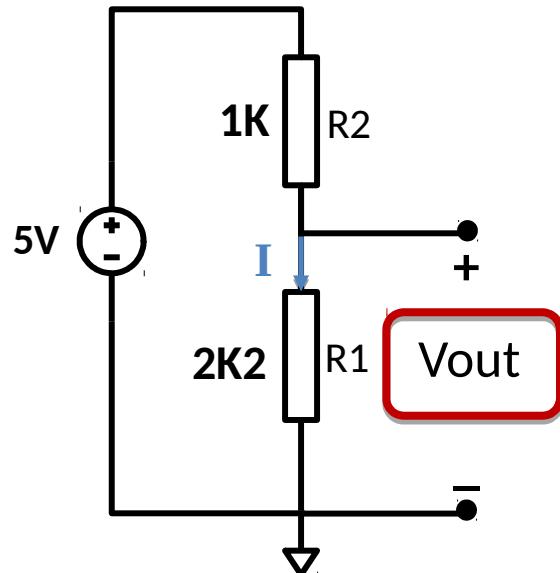
- Black wire uses for Ground pins
- Red wire uses for VCC





Task 3

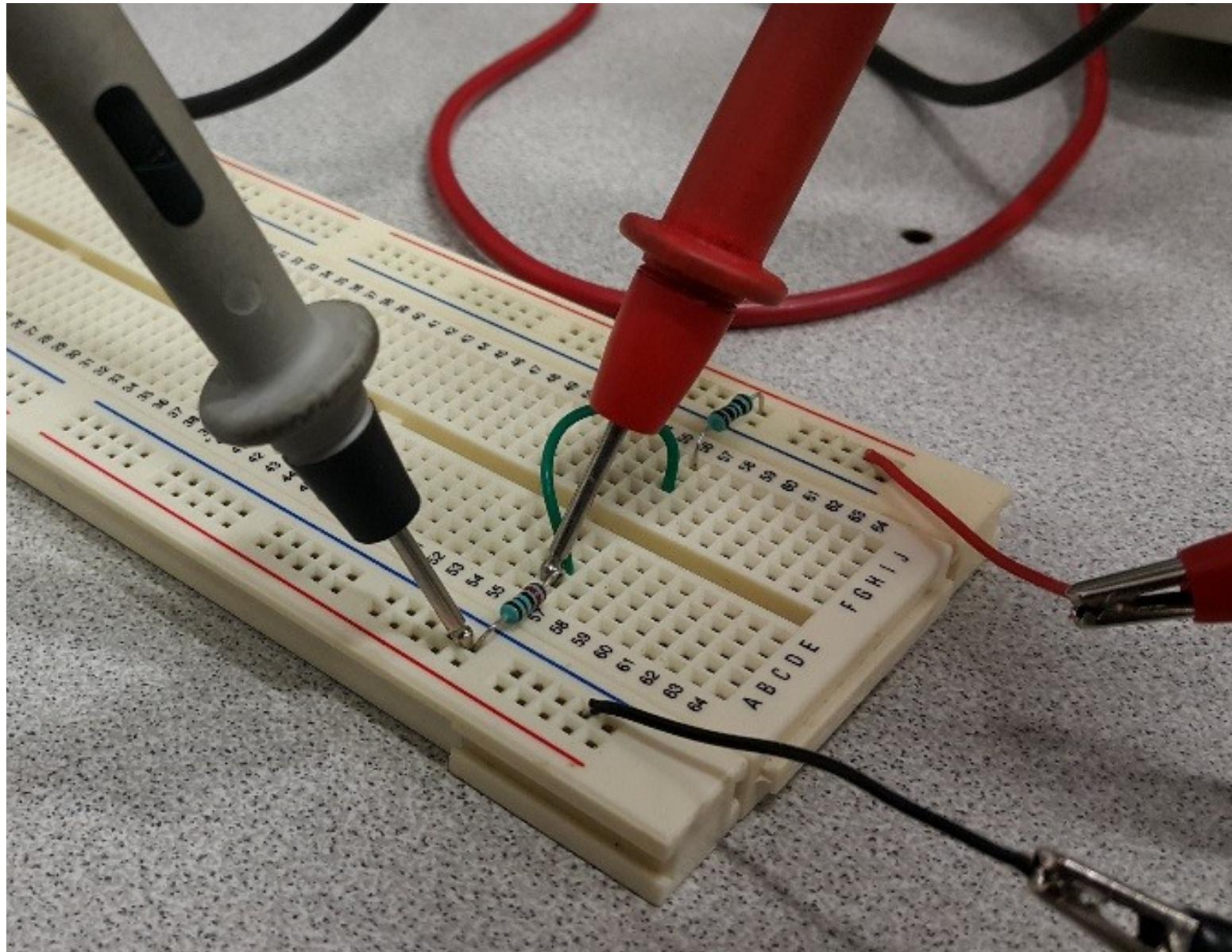
Measure the **voltage** of given circuit and write the value:



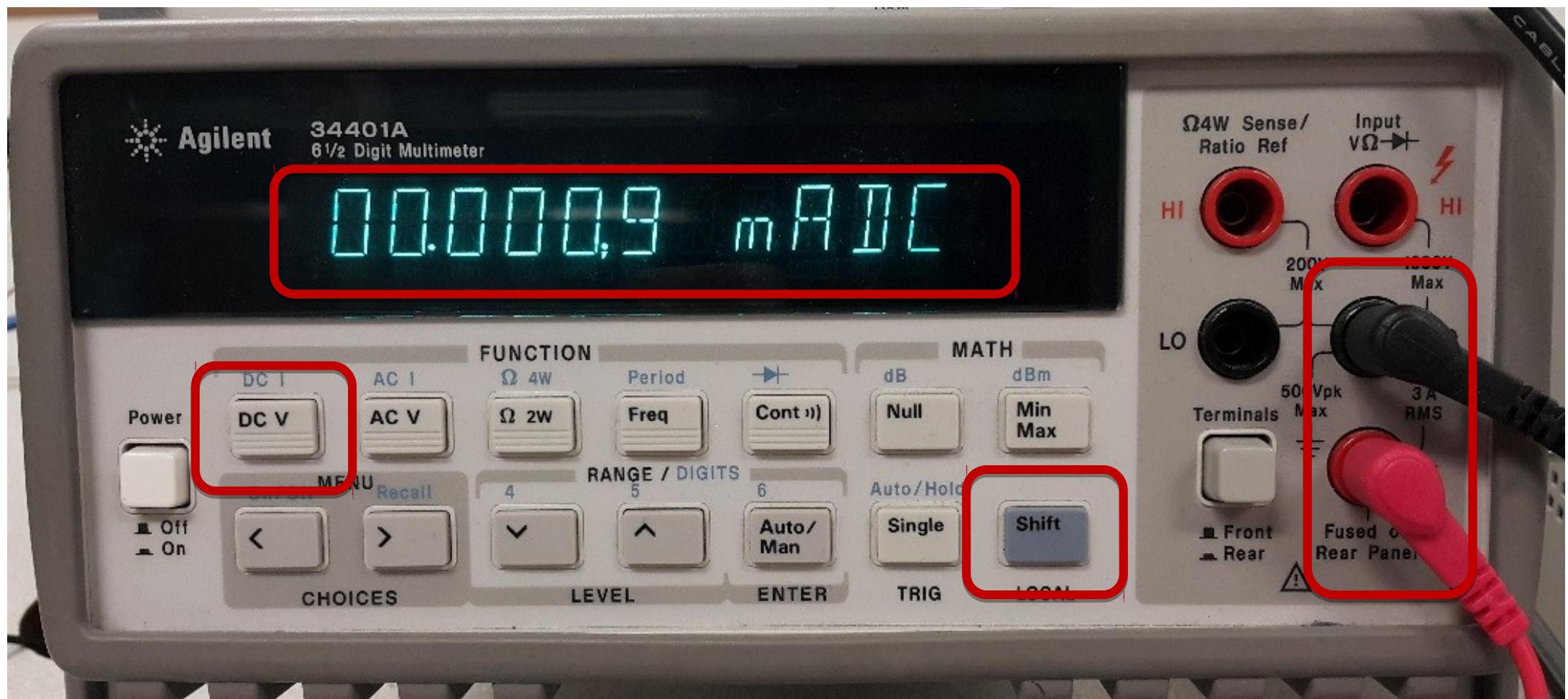


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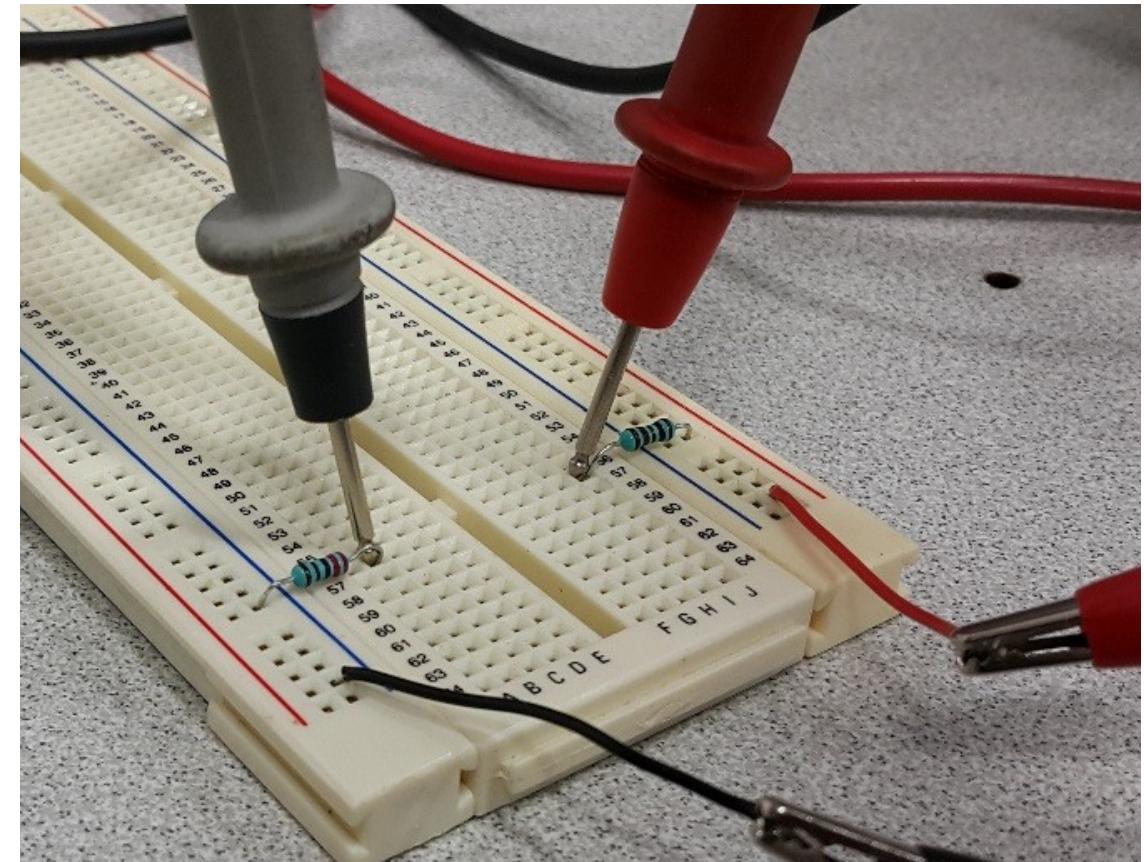
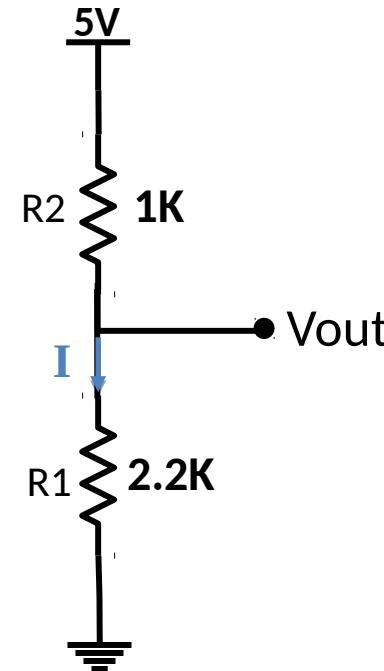
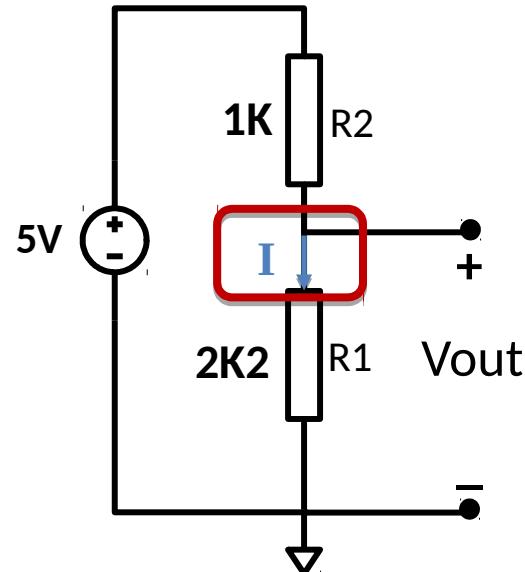
Current Measurement Set up

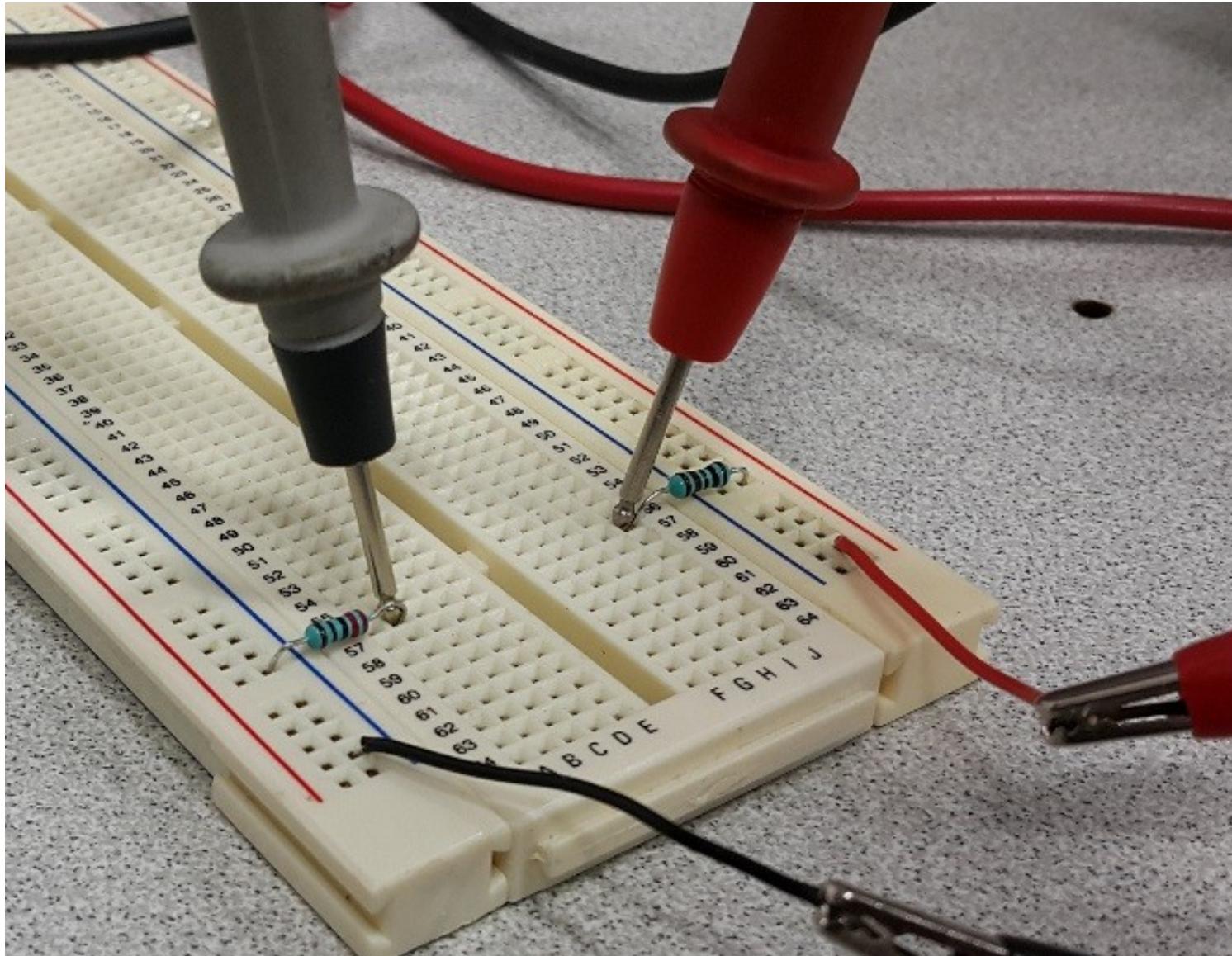




Task 3

Measure the **current** of given circuit and write the value:





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ECE Lab Health and Safety

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Lab Sign-In form

Form submitted successfully.

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Lab Induction Completion Form

<input type="checkbox"/> Edit	LabSession	Created	StudentSignIn
<input type="checkbox"/>	Monday 20 March 10-12pm	16/03/2017 10:13 a.m.	Yes
 Add new item			



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Sunita Bhide

Lab Induction - 1

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Save Close Paste Copy Cut Delete Item Commit Clipboard Actions

Welcome to ECE Undergraduate Lab He... Lab Sign-In form

ECE Health & Safety Induction lab for Undergraduate Labs

Code of Conduct

Lab Session Thursday 8 March 8-10am Student Name Sunita Bhide

1. Action to take in emergencies

Fire: Leave the building and assemble on Princes Street

Major incident: Call Emergency Services and tell the acting Head of Department

Medical emergency: Call Emergency Services and get a Technician or other First Aider

Inappropriate behaviour: Automated external defibrillator (AED) located at the 303 Level 1 concourse

Call Security or Emergency Services

Department staff with First Aid training:

Kavitha Penneru – ext. 87378 (Located in ECE Component Store, 303.260)

Sunita Bhide - ext. 89097 (Located in 303.155A)

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other people use your login credentials. Equipment must be used according to the manufacturer's recommendations and must only be removed from the laboratory by the IT Group or the Technician in charge.

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I have read the Code of Conduct and have completed the induction lab

Submit

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Questions?