Class 4: Intro to M1K board

Experiment 4 – DC Measurements using M1K Board and ALICE Voltmeter

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Intro to ECSE
A Source Measure Unit (SMU) is an instrument that combines a sourcing function and a measurement function on the same pin or connector.

- It can source voltage or current and simultaneously measure voltage and/or current.
- It integrates the capabilities of a power supply or function generator, a digital multimeter (DMM) or oscilloscope, a current source, and an electronic load into a single, tightly synchronized instrument.
- Here is a link to the Wikipedia definition [https://en.wikipedia.org/wiki/Source_measure_unit](https://en.wikipedia.org/wiki/Source_measure_unit)
What can the M1K do?
More about M1K Pinouts

+5V    RED
GND    BLACK
CHA    ORANGE
CHB    BLUE
How do I conduct experiments with M1K?

SOURCE — INPUT

Parts Kit

Breadboard

CIRCUIT

DUT

Device under test

M1K

MEASURE — OUTPUT

ECSE 1010
Experiment 4 needs?

- Alice Voltmeter
- +5 V supply ✓
- GND connection ✓
- Parts from kit (wires, resistors, LED)
Example of circuit built on protoboard
Another example
Experiment 4: DC Measurements using M1K Board and ALICE Voltmeter

- Go to the class website
- Look under class 4
- Find experiment 4
- Do the experiment
  - As a group of 2 students
  - Encouraged to discuss with others in the class on WebEx Teams
- Report experiment results using template (attached class 4)
- When complete – upload to Gradescope
  - Due Thursday, September 17th at 11:59 pm
  - Use guides to learn how to upload documents