BITNG PROJECT UPDATE

Carl Demolder

Date 11/23/2020

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Outline

- Progress to date

- Shriner's project

- Schedule
    - Gantt Chart update

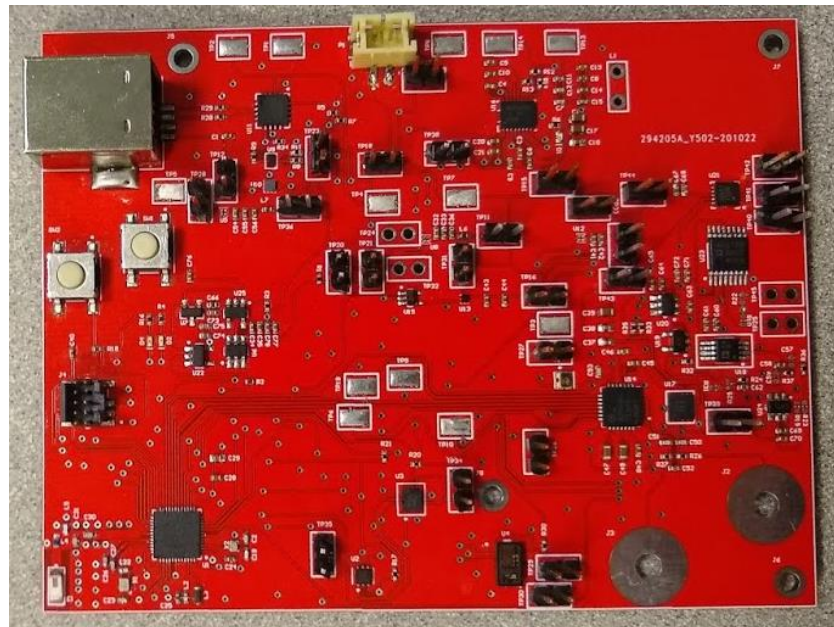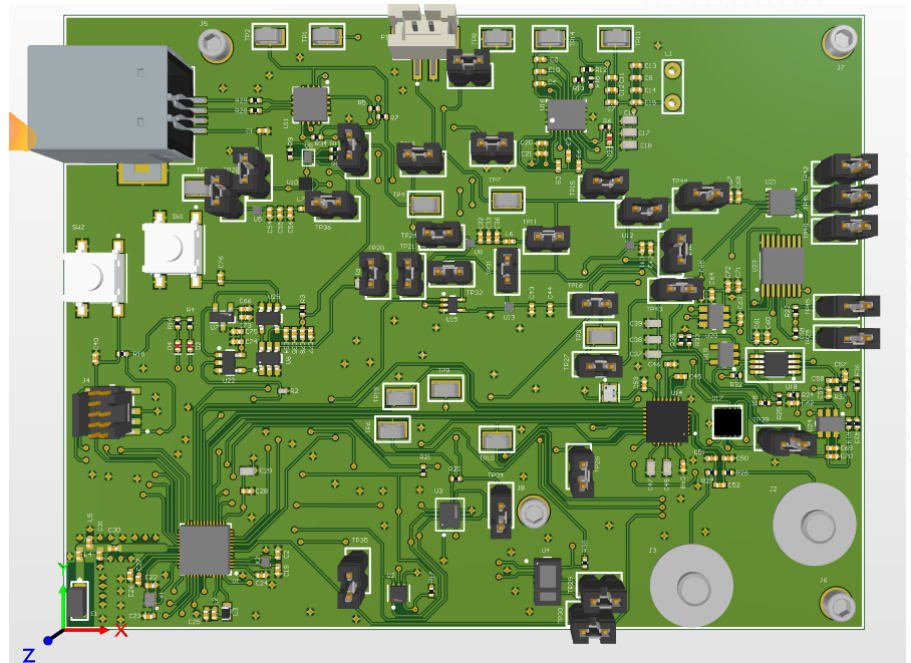- Path forward

PROGRESS TO DATE

Progress from last week

- Finals
- LP ECG
  - Firmware development

LP ECG PROJECT

PCB design

- PCB: Arrived
- Stencil: Arrived
- Digikey: Arrived
- Assembly: Completed
- Hardware Debug: Completed
- Programming Check: TO DO

Firmware

- ECG
  - ~~MAX30003~~
    - ~~Drivers~~
  - Optimization
- FRAM
  - ~~CY15B108QI~~
    - ~~Drivers~~
  - Optimization
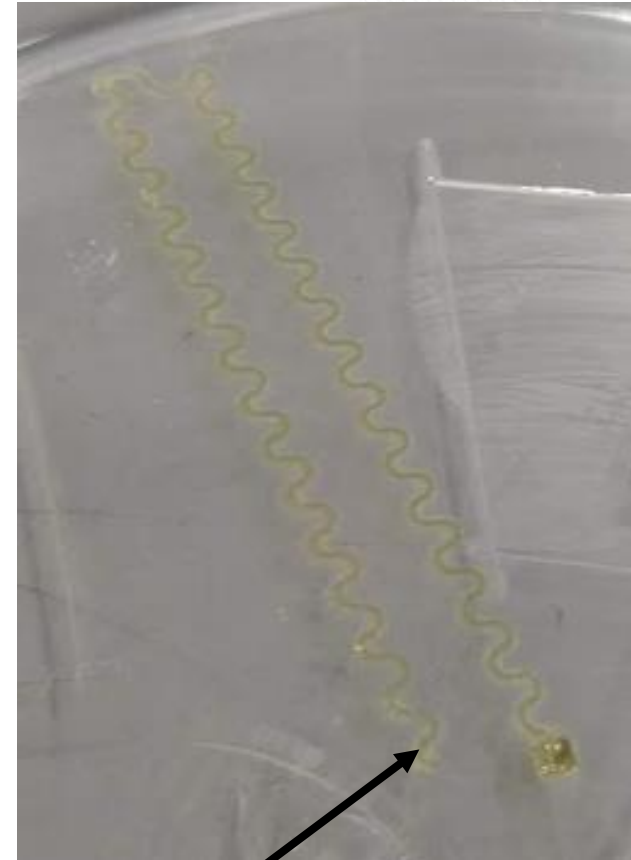- NRF52
  - BLE
  - Power Optimization
  - ~~RTC~~

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STRAIN SENSOR

Strain Sensor: Round #1

- PDMA: Finished
- PI: Finished
- AG NW: Finished
- PDMS: Finished
- ASSEMBLY: FAILED
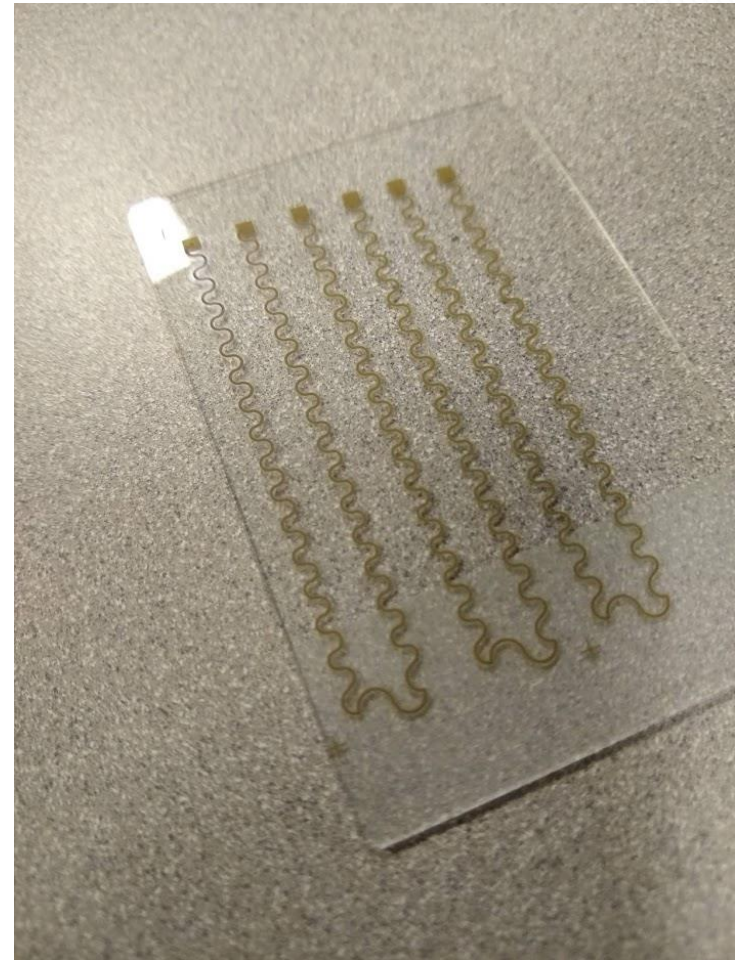- ENCAPSULATION: FAILED
- Characterization: FAILED

Not enough nano-wires

Broken pads

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Strain Sensor: Round #2

- PDMA: Finished
- PI: Finished
- AG NW: Finished
- Conductivity Test: FAILED
- ~~PDMS: TO-DO~~
- ~~ASSEMBLY: TO-DO~~
- ~~ENCAPSULATION: TO-DO~~
- ~~Characterization: TO-DO~~

PATH FORWARD

Path forward (11/23/20 – 11/30/20)

- Shriner's Project:
  - Sensor manufacturing:
    - Strain sensors (2X)
      - Conductivity test and characterization

- LP ECG:
  - Firmware development

SCHEDULE

Schedule Gantt chart

Task	11/16-11/23	11/23-11/30	11/30-12/07	12/07-12/14	12/14-12/21	12/21-12/28	12/28-1/4
LOW POWER ECG							
-PCB ASSEMBLY							
-HARDWARE DEBUGGING							
-FIRMWARE DEVELOPMENT	✖	⬤					
NEUROMOTOR PEDIATRIC WEARABLE							
-LITERATURE REVIEW	✖	⬤					
-PCB ASSEMBLY							
-HARDWARE DEBUGGING							
-FIRMWARE DEVELOPMENT	✖	⬤					
-PRESSURE SENSOR MANUFACTURING							
-STRAIN SENSOR MANUFACTURING	✖	⬤					

LEGEND
✖ FINSHED
⬤ TO-DO

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APPENDIX