



Bio-Sensor Wearable Development Board

Carl Demolder

Date 6/14/2020

Outline

- Schedule
 - Gantt Chart update
- Progress update
 - Current progress
 - Path forward

SCHEDULE

Schedule Gantt chart

Task	6/3-6/7	6/7-6/14	6/14-6/21	6/21-6/28	6/28-7/5	7/5-7/12	7/19-7/26	7/26-7/31
ELECTRONICS DEVELOPMENT								
-SCHEMATIC GENERATION	✕	✕						
-PCB LAYOUT AND ROUTING			●					
-HARDWARE DEBUGGING								
FIRMWARE DEVELOPMENT								
-PROJECT STACK ORGANIZATION								
-SENSOR DRIVERS								
-RTT AND SERIAL DATA LOGGING								
-FIRMWARE DEBUGGING								

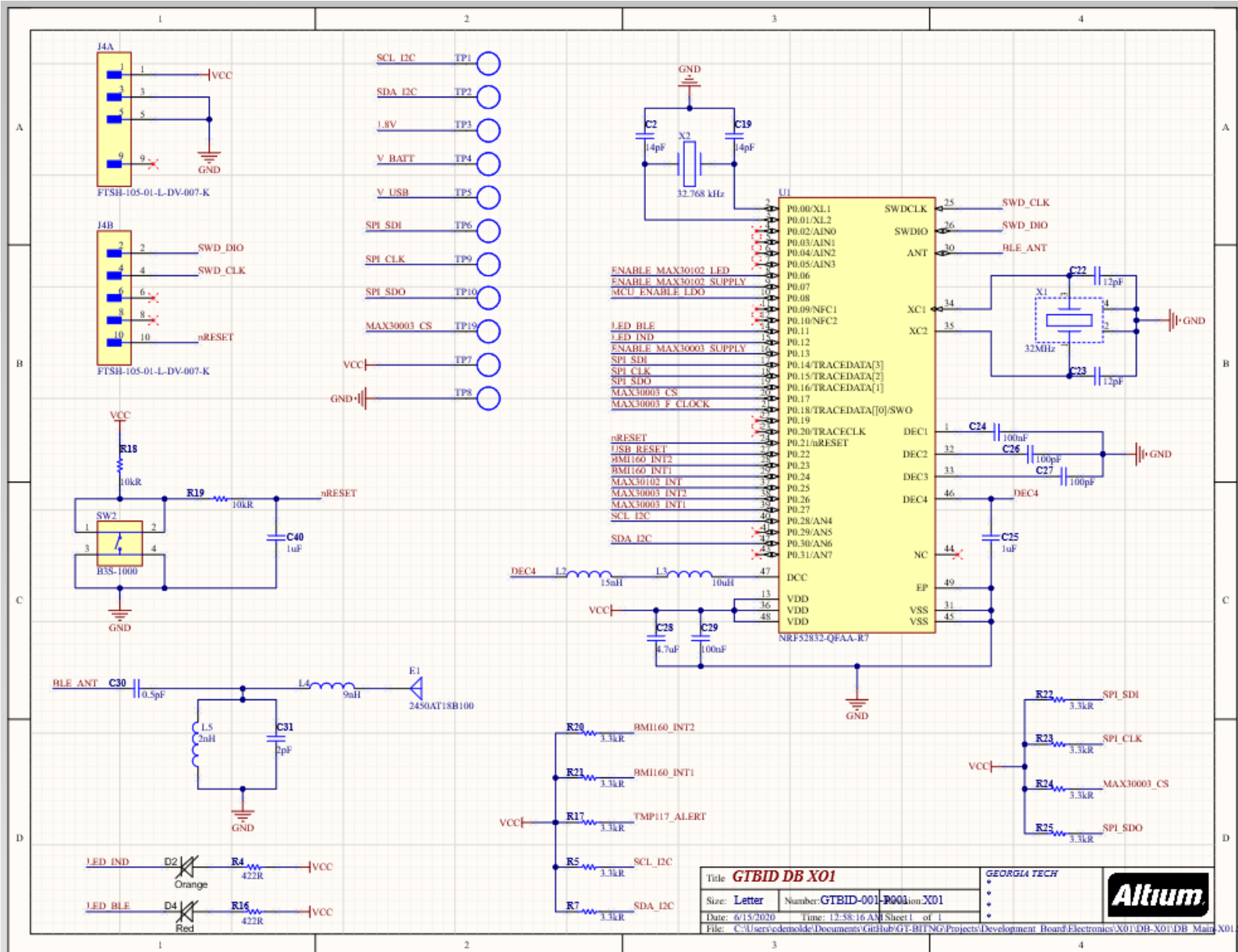
PROGRESS TO DATE

Electronics development: schematic

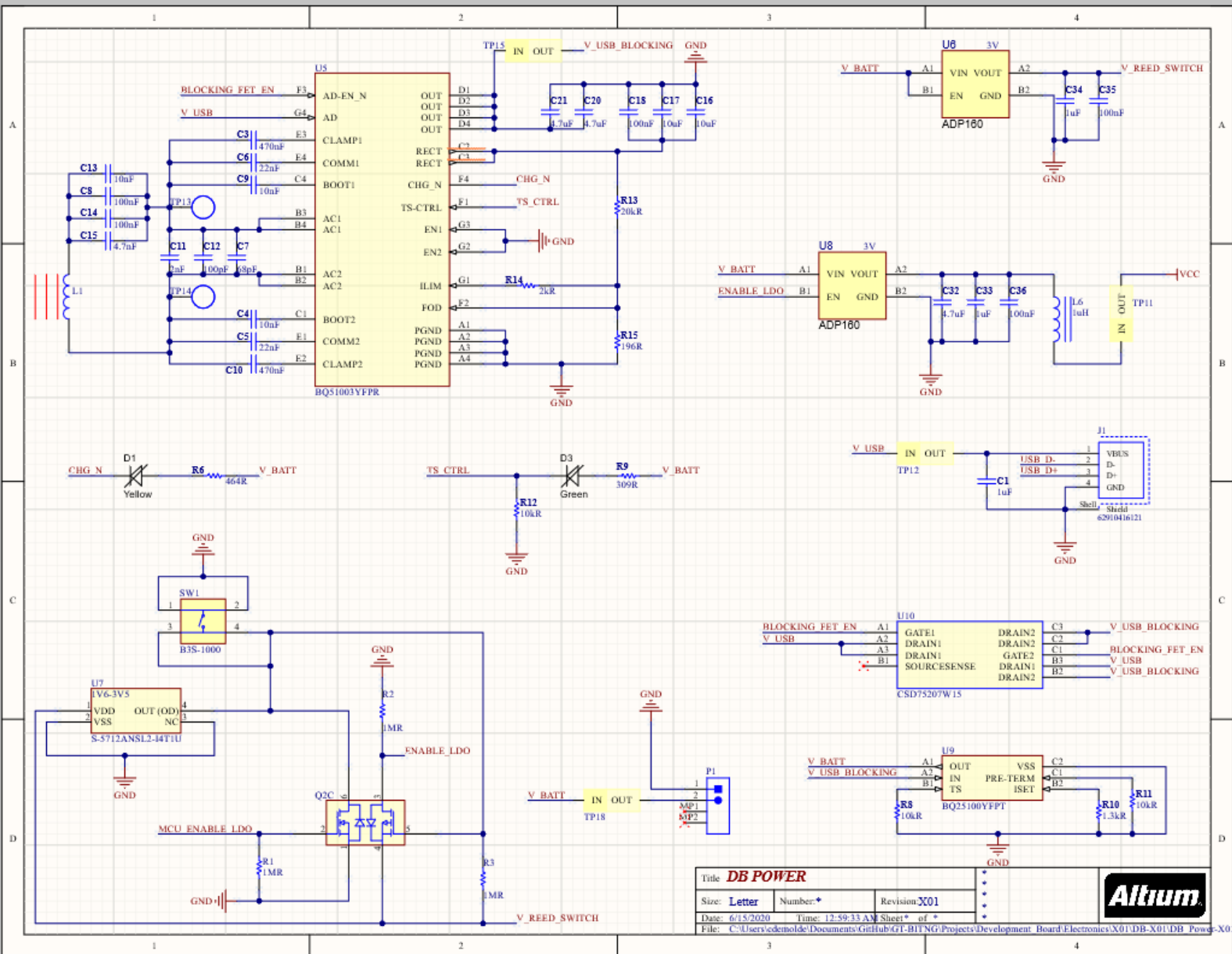
- Schematic generation
 - ~~nRF52 with supporting circuitry (2 hours)~~
 - ~~BLE antenna and impedance matching circuit (2 hours)~~
 - ~~Wireless charging (5 hours)~~
 - ~~Lithium battery charging (2 hours)~~
 - ~~UI interaction (1 hour)~~
 - ~~USB charging (2 hours)~~
 - ~~Biosensors: temperature, IMU, ECG (4 hours)~~
 - ~~Test points, connectors, jumpers (2 hours)~~
- Estimated time: 20 hours
- Actual time spent: 22 hours

*Not in scope for current phase of development.

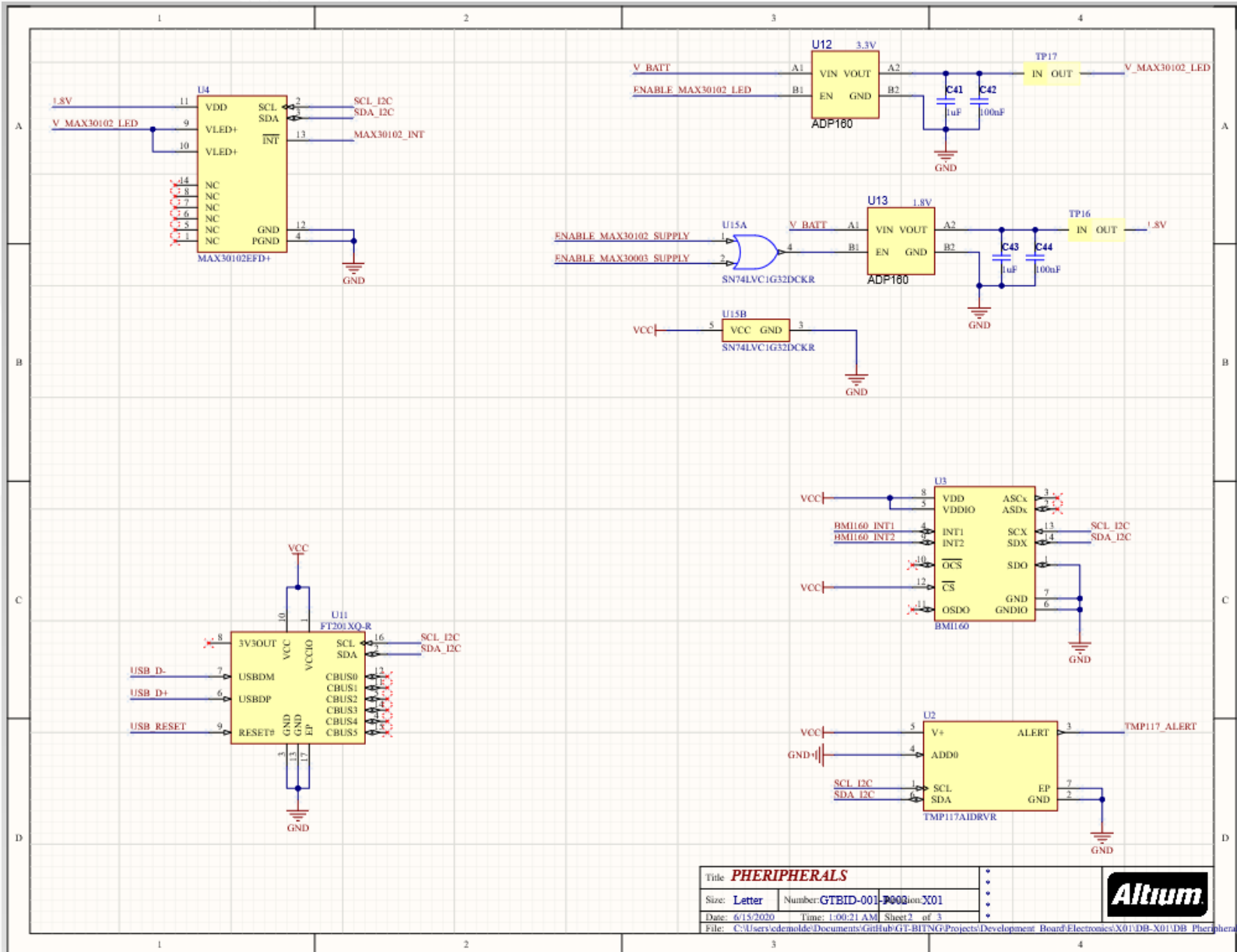
Progress to date: 6/14/2020



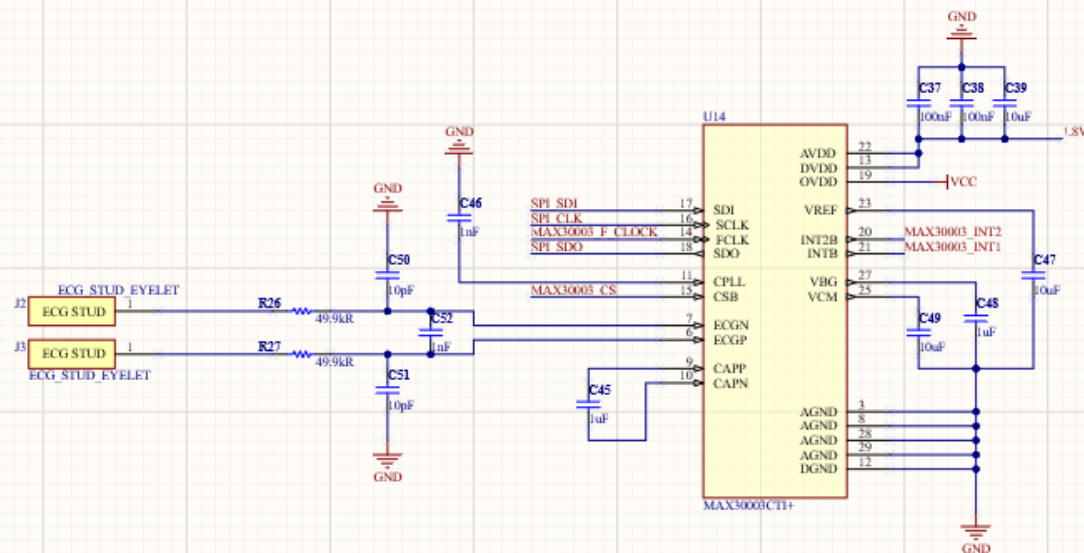
Progress to date: 6/14/2020



Progress to date: 6/14/2020



Progress to date: 6/14/2020



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Altium

PATH FORWARD

Electronics development: PCB design

- PCB design
 - Major component layout (2 hours)
 - BLE antenna and impedance matching circuit (3 hours)
 - Wireless charging (2 hours)
 - Lithium battery charging (1 hours)
 - Overall board construction(1 hour)
 - USB charging (2 hours)
 - Biosensors: temperature, IMU, ECG (3 hours)
 - Test points, connectors, jumpers (1 hours)
 - Gerber file generation (2 hours)
 - BOM generation (2 hours)

Path forward (6/14/20 – 6/21/20)

- Layout the PCB
 - Wireless and USB charging and battery monitoring
 - Major component layout
 - Bluetooth filter and antenna circuitry
 - MCU clocks and supporting MCU circuitry
 - ECG layout
- Summit to YSK and Dr. Yeo for review: 6/28/20