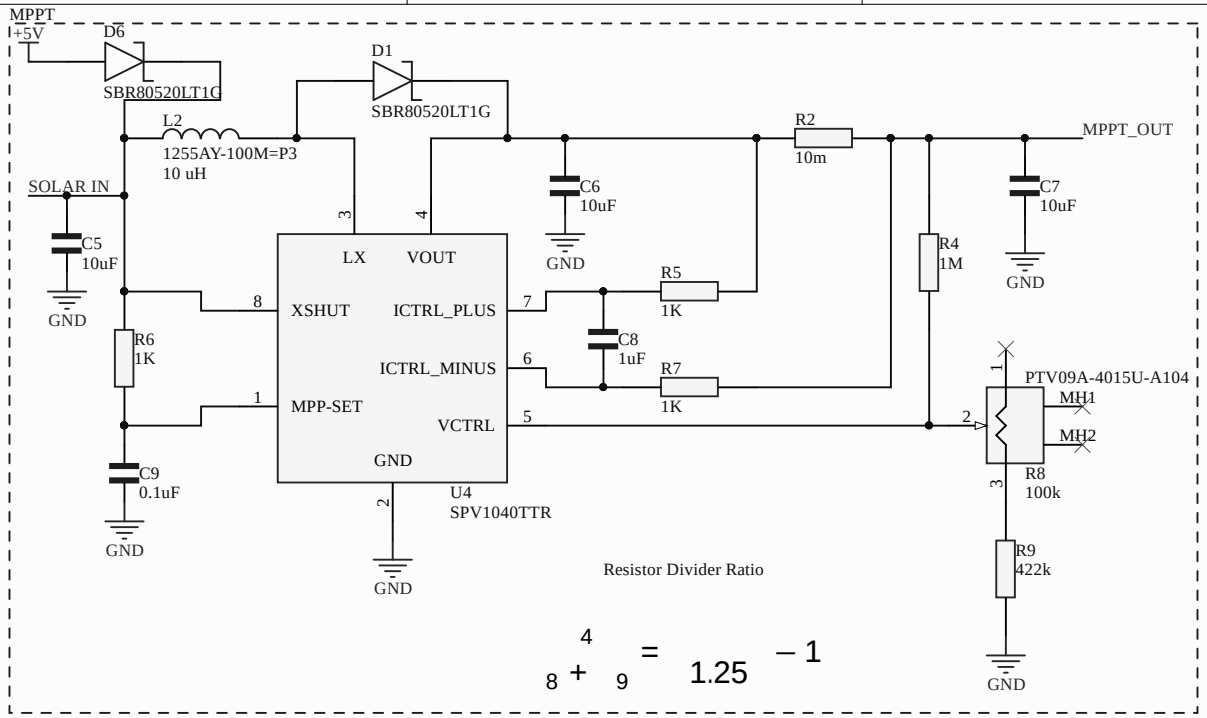
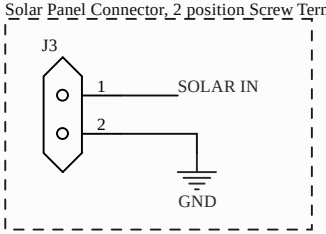
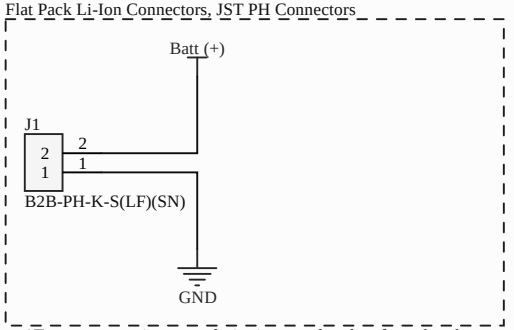



Solar Panel Connector, 2 position Screw Terminal Block

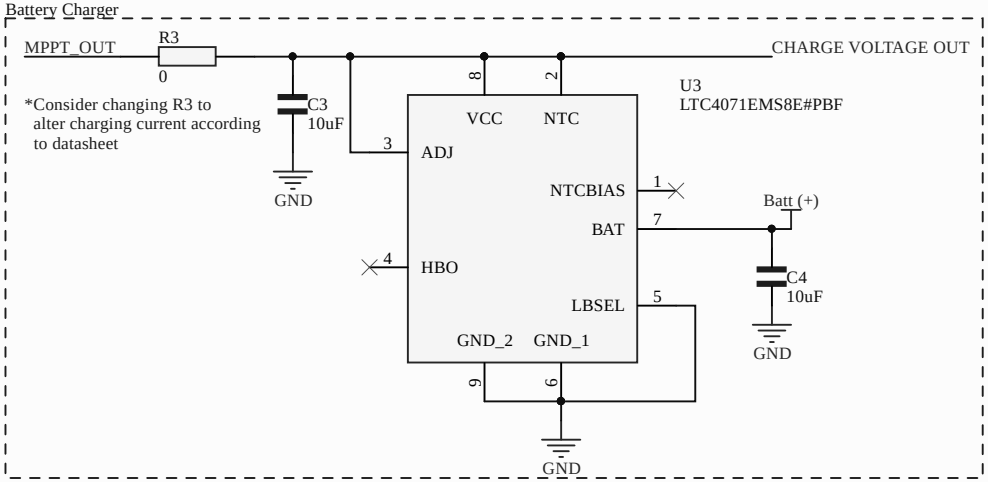



Flat Pack Li-Ion Connectors, JST PH Connectors

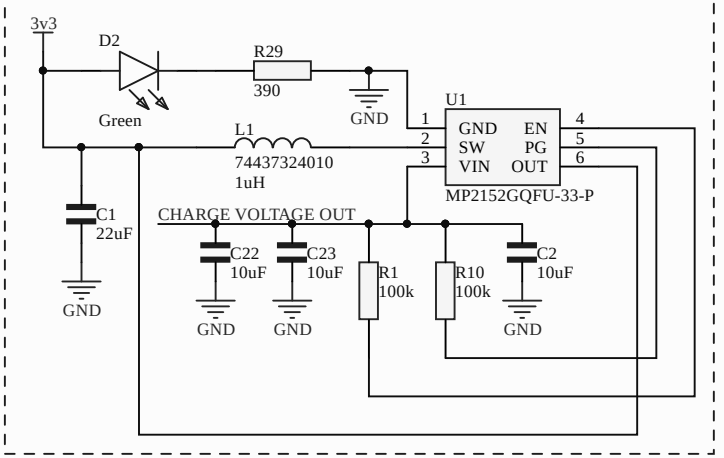



*Two conectors in case polarity is wrongly taken from datasheets

Battery Charger




Switching Power Supply, Fixed 3.3 V out




| | | | |
|---|---|---|---|
| Title *Circuit Power* | | | *Kennedy Hall of Engineering*<br>*301 Fulton St. W*<br>*Grand Rapids, MI 49504* |
| Size: A | Number:1 | Revision0.1 | |
| Date: 10/30/2021 Time: 11:05:56 PM | Sheet1 of 7 | | Engineer: Jesse Fernandez |
| File: W:\Altium\436-Final-Project-main\436-Final-Project-main\Altium\GPS_Tracker_Logger\Power.SchDoc | | | |

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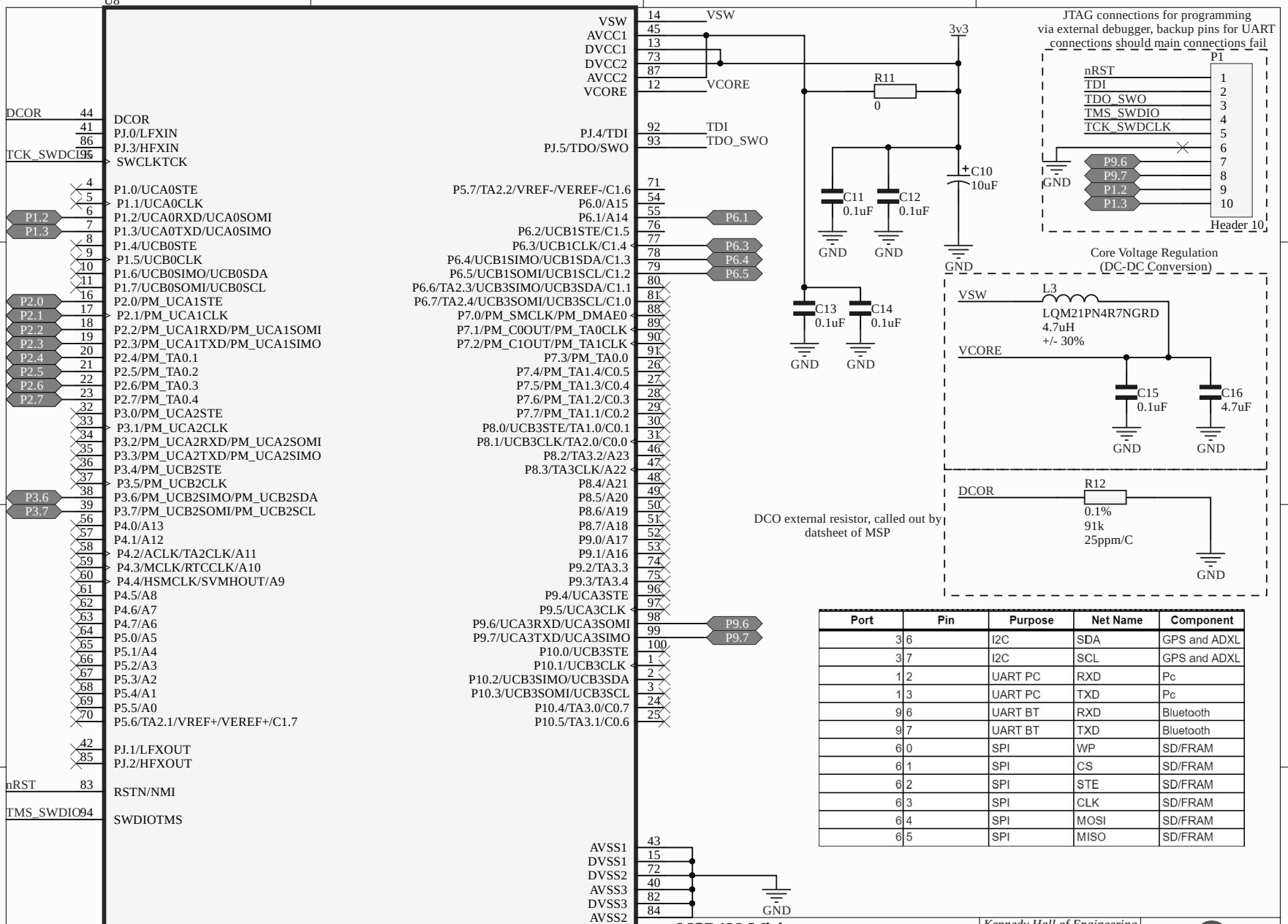


| Port | Pin | Purpose | Net Name | Component |
|---|---|---|---|---|
| 3 | 6 | I2C | SDA | GPS and ADXL |
| 3 | 7 | I2C | SCL | GPS and ADXL |
| 1 | 2 | UART PC | RXD | Pc |
| 1 | 3 | UART PC | TXD | Pc |
| 9 | 6 | UART BT | RXD | Bluetooth |
| 9 | 7 | UART BT | TXD | Bluetooth |
| 6 | 0 | SPI | WP | SD/FRAM |
| 6 | 1 | SPI | CS | SD/FRAM |
| 6 | 2 | SPI | STE | SD/FRAM |
| 6 | 3 | SPI | CLK | SD/FRAM |
| 6 | 4 | SPI | MOSI | SD/FRAM |
| 6 | 5 | SPI | MISO | SD/FRAM |

Title ***MSP432 Wiring***

Size: A | Number: 1 | Revision: 0.1

Date: 10/30/2021 Time: 11:05:56 PM | Sheet 2 of 7

File: W:\Altium\436-Final-Project-main\436-Final-Project-main\Altium\GPS_Tracker_Logger\MSP432.SchDoc

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*301 Fulton St. W*
*Grand Rapids, MI 49504*

Engineer: Jesse Fernandez

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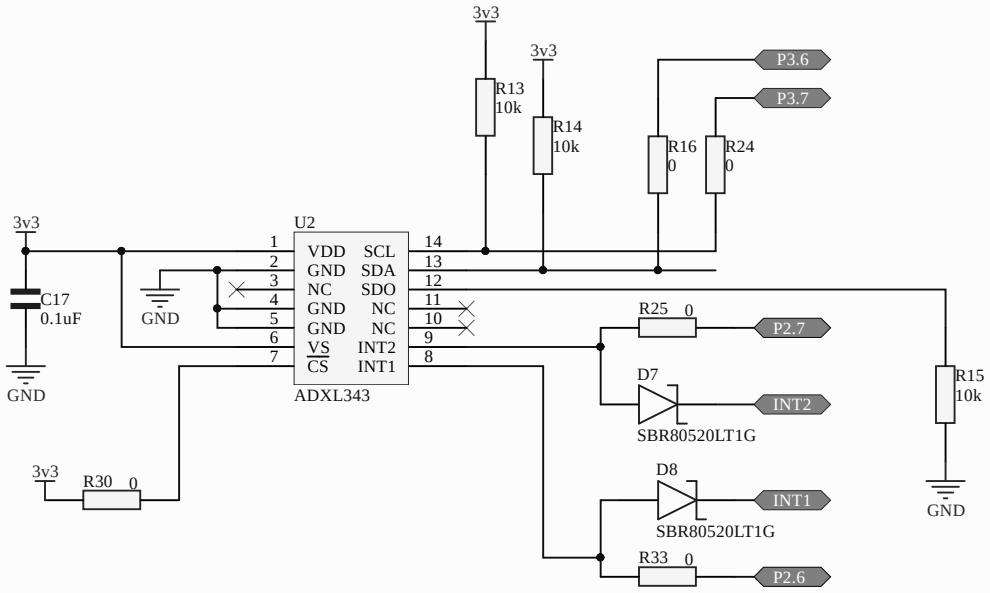


| | | | |
|---|---|---|---|
| Title ***ADXL343 Wiring*** | | | *Kennedy Hall of Engineering*<br>*301 Fulton St. W*<br>*Grand Rapids, MI 49504* |
| Size: A | Number:1 | Revision0.1 | |
| Date: 10/30/2021 Time: 11:05:56 PM | | Sheet3 of 7 | Engineer: Jesse Fernandez |
| File: W:\Altium\436-Final-Project-main\436-Final-Project-main\Altium\GPS_Tracker_Logger\ADXL343.SchDoc | | | |

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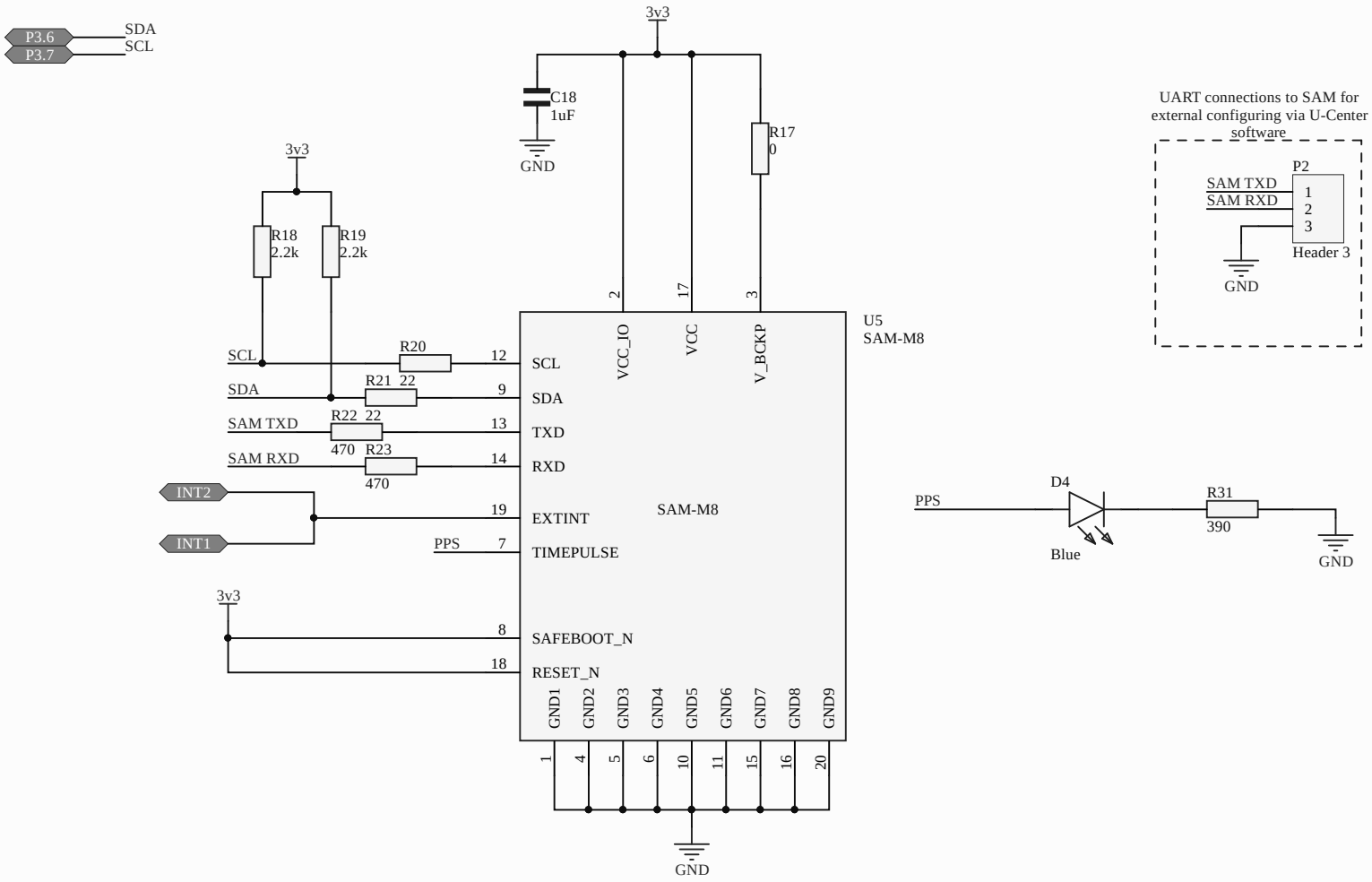


| | | | |
|---|---|---|---|
| Title ***SAM-M8Q Wiring*** | | | *Kennedy Hall of Engineering*<br>*301 Fulton St. W*<br>*Grand Rapids, MI 49504* |
| Size: A | Number:1 | Revision0.1 | |
| Date: 10/30/2021 Time: 11:05:57 PM | Sheet4 of 7 | | Engineer: Jesse Fernandez |
| File: W:\Altium\436-Final-Project-main\436-Final-Project-main\Altium\GPS_Tracker_Logger\SAM-M8Q.SchDoc | | | |

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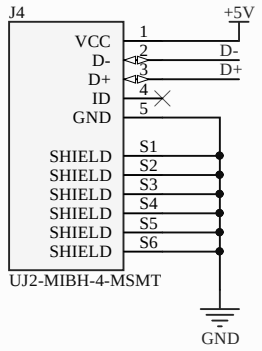
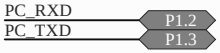
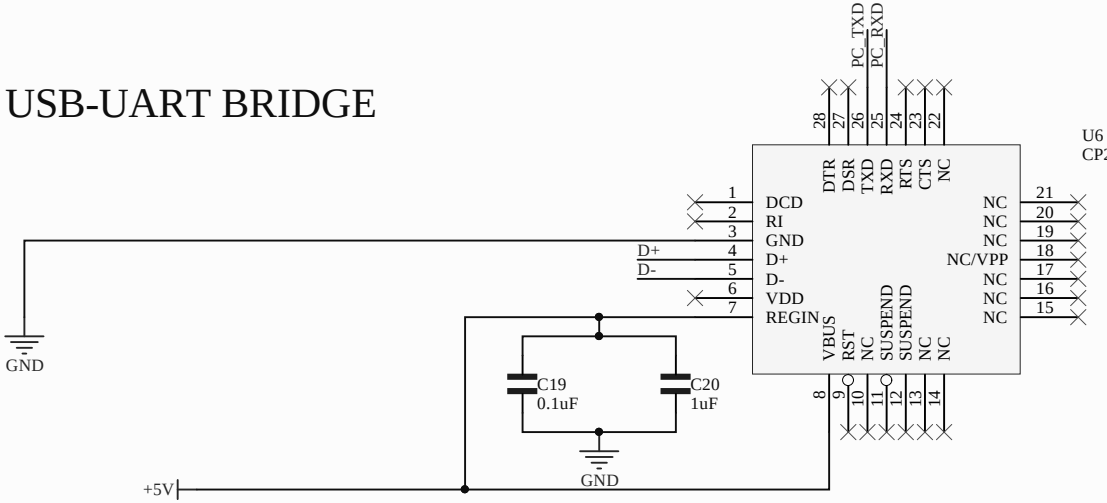
## MICRO USB , TYPE B




## PC-MSP UART INTERFACE




## USB-UART BRIDGE




| | | | |
|---|---|---|---|
| Title ***USB-UART Dongle*** | | | *Kennedy Hall of Engineering*<br>*301 Fulton St. W*<br>*Grand Rapids, MI 49504* |
| Size: A | Number:1 | Revision0.1 | |
| Date: 10/30/2021 Time: 11:05:57 PM | Sheet5 of 7 | | Engineer: Jesse Fernandez |
| File: W:\Altium\436-Final-Project-main\436-Final-Project-main\Altium\GPS_Tracker_Logger\USB-UART.SchDoc | | | |

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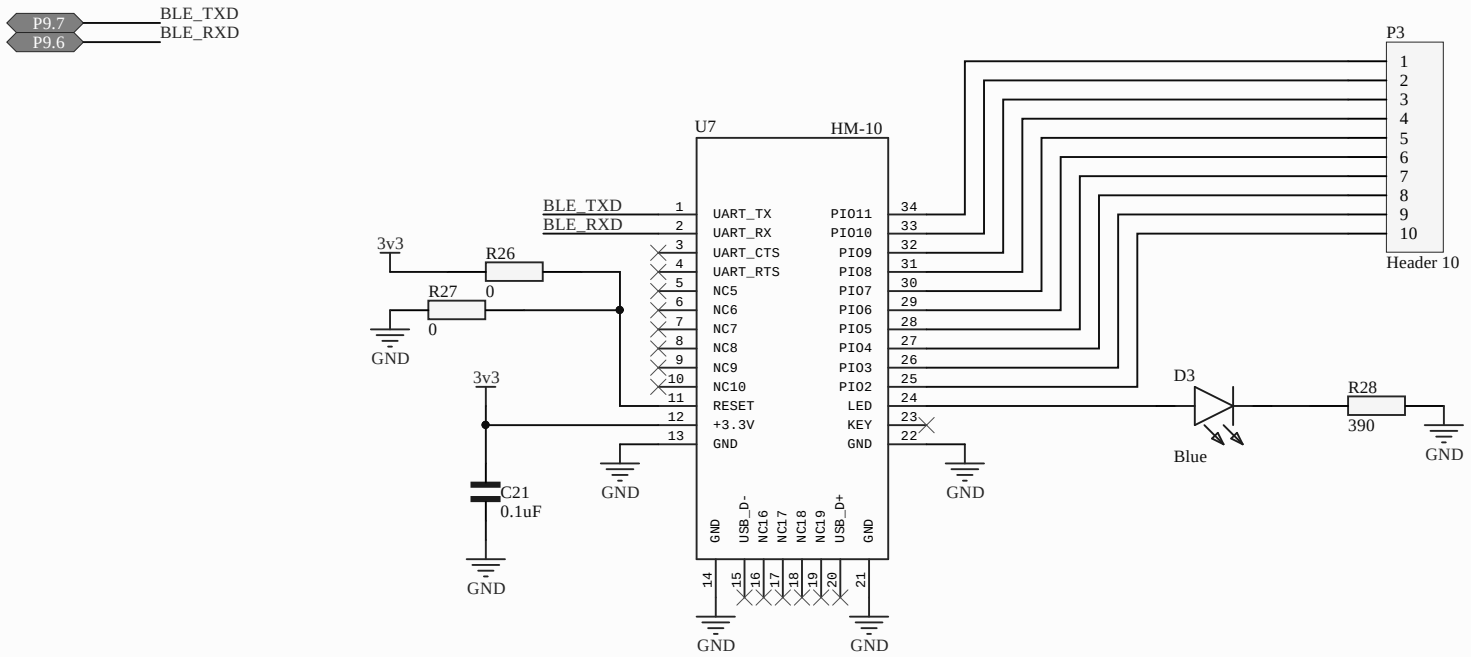


| | | | |
|---|---|---|---|
| Title ***HM-10 (BLE) Wiring*** | | | *Kennedy Hall of Engineering*<br>*301 Fulton St. W*<br>*Grand Rapids, MI 49504* |
| Size: A | Number:1 | Revision0.1 | |
| Date: 10/30/2021 Time: 11:05:57 PM | | Sheet6 of 7 | Engineer: Jesse Fernandez |
| File: W:\Altium\436-Final-Project-main\436-Final-Project-main\Altium\GPS_Tracker_Logger\HM-10.SchDoc | | | |

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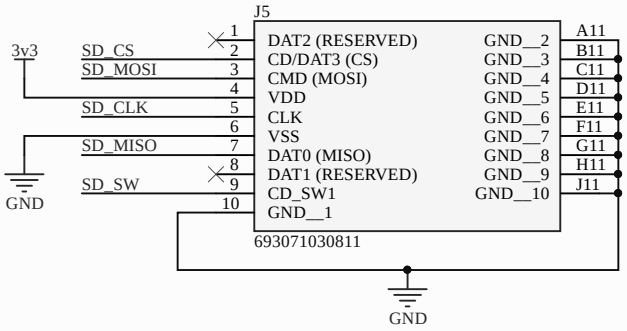


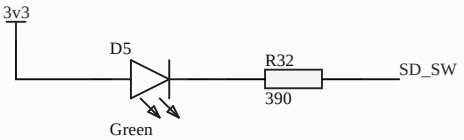


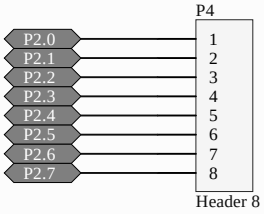


| | | | |
|---|---|---|---|
| Title ***SD Card Wiring*** | | | *Kennedy Hall of Engineering*<br>*301 Fulton St. W*<br>*Grand Rapids, MI 49504* |
| Size: A | Number:1 | Revision0.1 | |
| Date: 10/30/2021 Time: 11:05:57 PM | Sheet7 of 7 | | Engineer: Jesse Fernandez |
| File: W:\Altium\436-Final-Project-main\436-Final-Project-main\Altium\GPS_Tracker_Logger\SD_Card_Wiring.SchDoc | | | |

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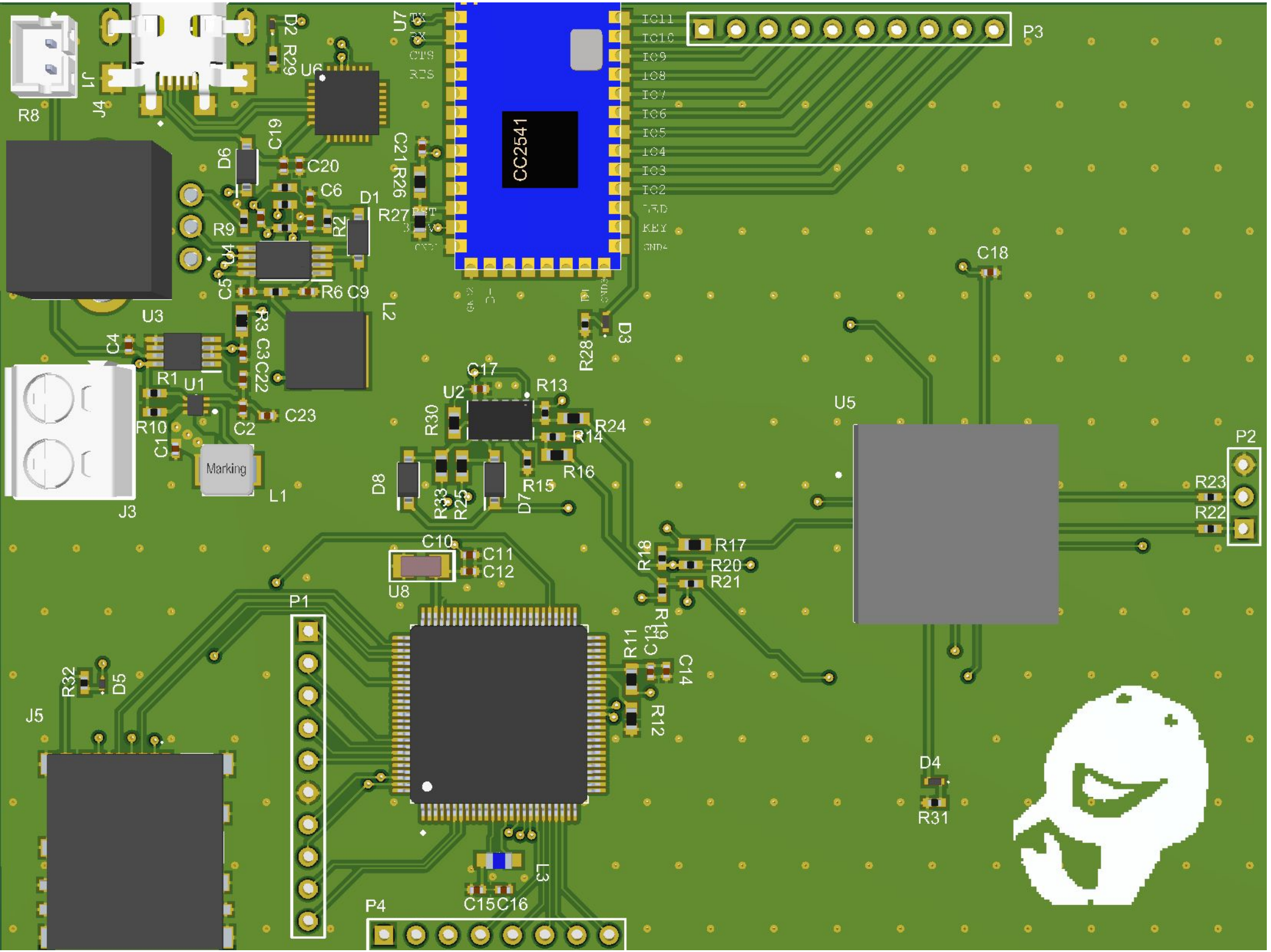
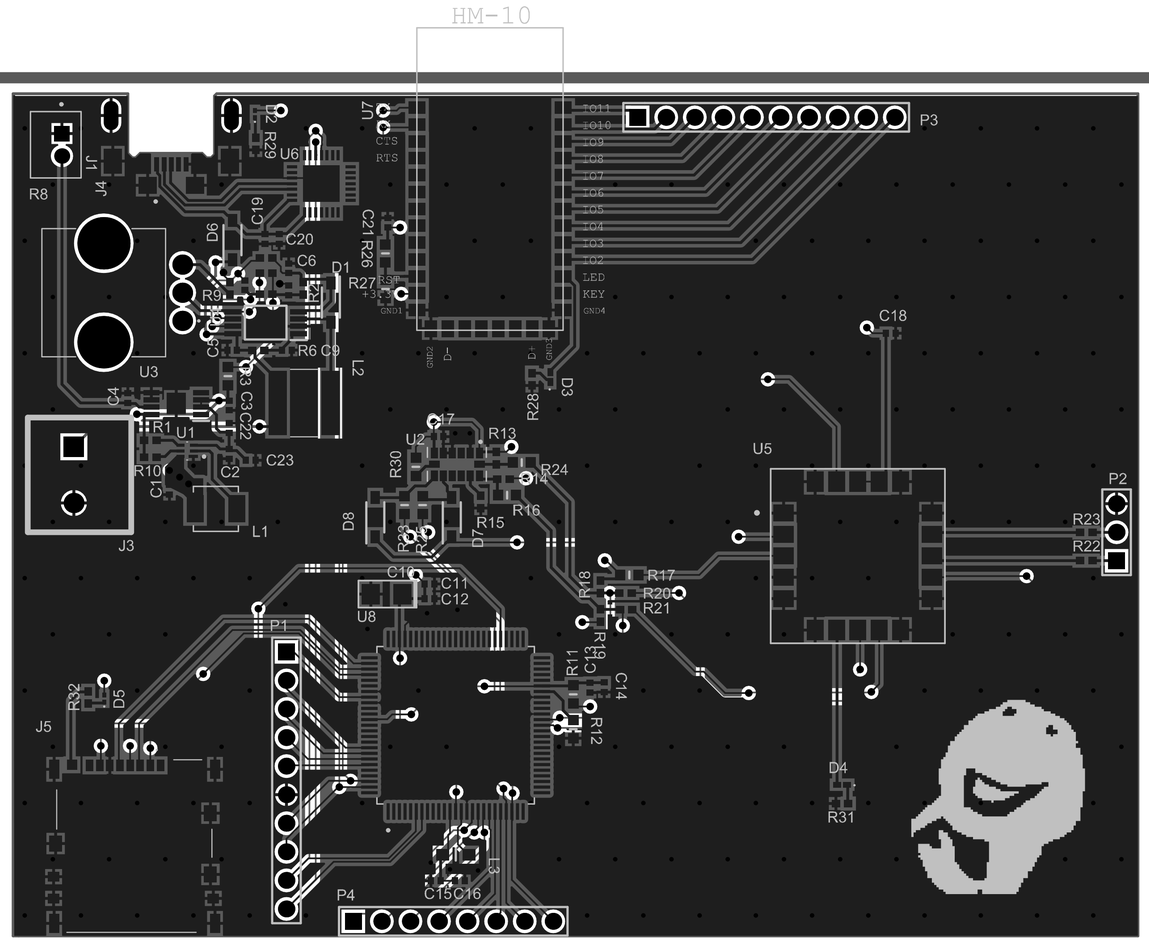

CC2541
P1
P2
P3
P4
J1
J3
J4
J5
U1
U2
U3
U4
U5
U6
U7
U8
L1
L2
L3
D1
D2
D3
D4
D5
D6
D7
D8
C1
C2
C3
C4
C5
C6
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
R1
R2
R3
R4
R5
R6
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
Marking

1) RIGID PCB, 4 LAYER
2) BOARD OUTLINE DEFINED ON GM29, FABRICATION NOTES ON GM30 (AND OVERLAID ON EACH FILE).
3) BOARD THICKNESS, 1.575MM +/- 10%, MEASURED CU TO CU
4) BOARD MATERIAL: MULTI-FUNCTIONAL FR-4 EPOXY GLASS LAMINATE, ISOLA 370HR OR EQUIVALENT. MEETS OR EXCEEDS IPC-4101 (INCL. /21)
5) BOARD FINISH: PLATE ALL EXPOSED CONDUCTIVE PATTERN AREAS ELECTROLESS NICKEL IMMERSION GOLD. MINIMUM NI/AU THICKNESSES PER IPC-4552.
6) BOARD CLASS: BOARD SHALL BE FABRICATED TO IPC CLASS 2 PER IPC-6012 RIGID (CURRENT REV.). INSPECTION PER IPC-A-600 2 (CURRENT REV.)
7) BOARD SOLDERMASK: LPI SOLDERMASK OVER BARE COPPER (SMOBC), COLOR: BLACK, BOTH SIDES. PROCESS SHALL CONFORM TO IPC-SM-840, CLASS H.
8) BOARD SILKSCREEN: NON-CONDUCTIVE EPOXY INK, COLOR: WHITE, BOTH SIDES
9) NO COPPER THIEVING ALLOWED ON ANY LAYER.
10) BOARD BOW AND TWIST: MEET IPC-TM-650
11) 0.5OZ (18UM) CU LAMINATE ON EXTERNAL LAYERS BEFORE PLATING WITH A MIN. OF 1.0OZ (35UM) FINISHED.




## FABRICATION NOTES

| Layer | Name | Material | Thickness | Constant | Board Layer Stack |
|---|---|---|---|---|---|
| | Top Overlay | | | | |
| | Top Solder | Solder Resist | 0.40mil | 3.5 | |
| 1 | M1 Top | Copper | 1.38mil | | |
| | Dielectric 1-2 | PP-006 | 4.33mil | 4.29 | |
| 2 | M2 Plane 1 | Copper | 1.38mil | | |
| | Dielectric 2-3 | FR-4 | 44.49mil | 3.96 | |
| 3 | M3 Layer 2 | Copper | 1.38mil | | |
| | Dielectric 3-4 | PP-006 | 4.33mil | 4.29 | |
| 4 | M4 Bottom | Copper | 1.38mil | | |
| | Bottom Solder | Solder Resist | 0.40mil | 3.5 | |
| | Bottom Overlay | | | | |

Total board thickness: 59.46mil

GVSU

Kennedy Hall of Engineering
301 Fulton St. W, Grand Rapids MI

| | |
|---|---|
| PROJECT | GPS Tracker & Logger |
| ID | |
| DATE | 10/30/2021 11:06:05 PM |
| VARIANT | [No Variations] |
| ENGINEER | Collin Barnhardt |
| LAYER | M4 Bottom |
| FILE | Copy of GPS_TRACKER_REVII.PcbDoc |
| CONFIDENTIAL | |