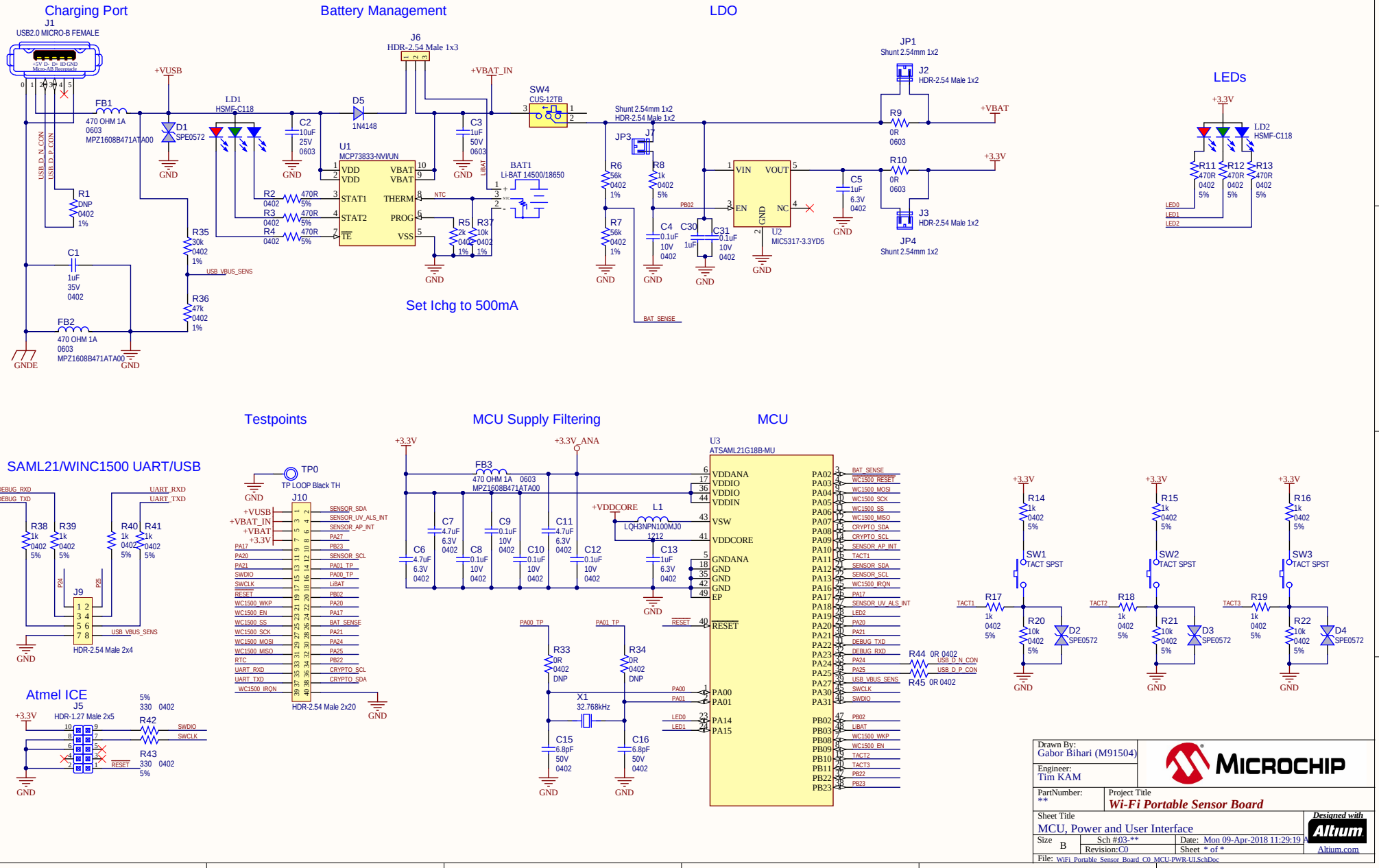
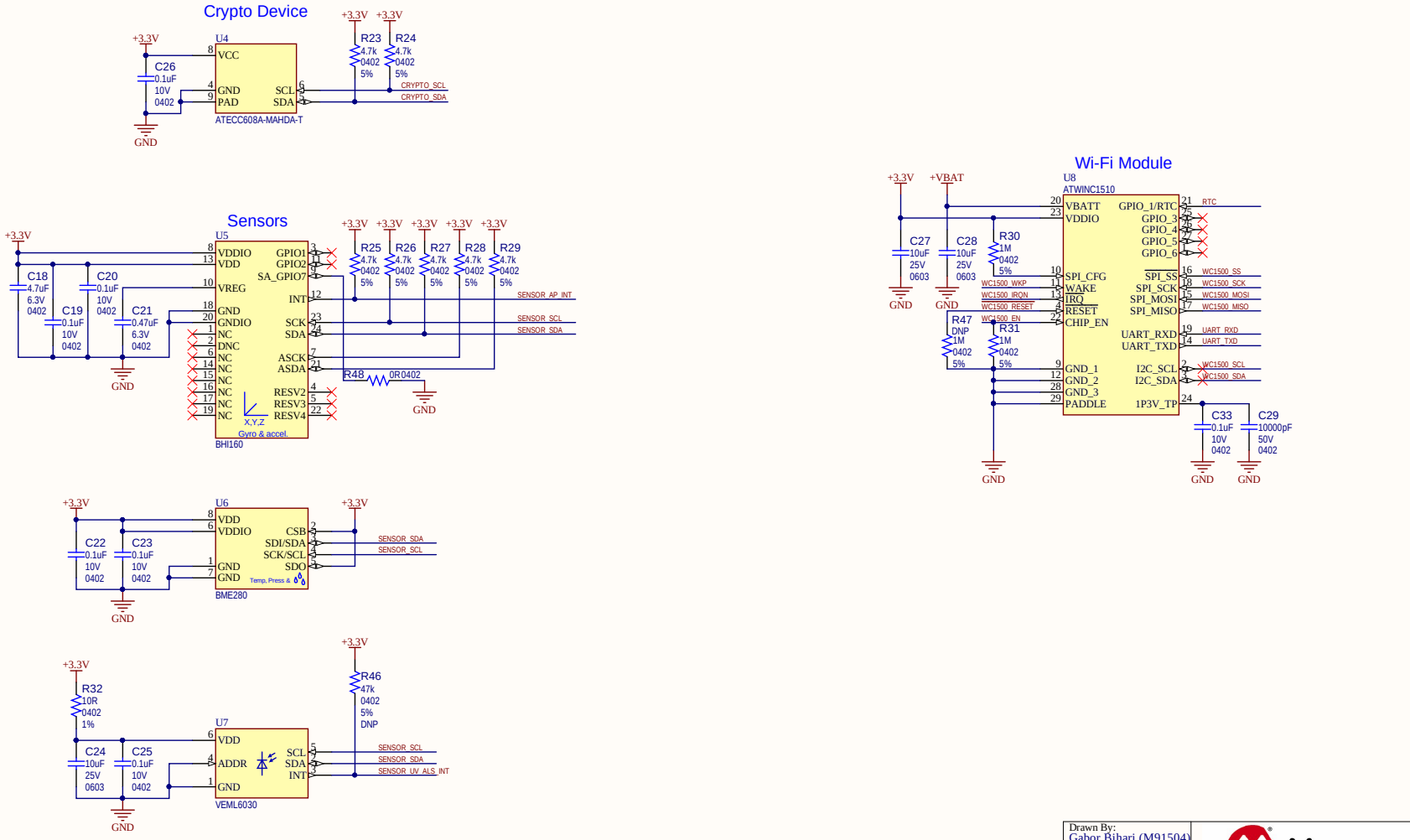
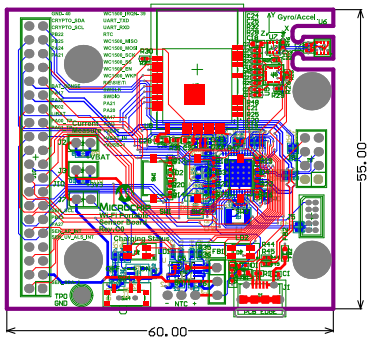

Charging Port
Battery Management
LDO
LEDs
J1
USB2.0 MICRO-B FEMALE
FB1
470 OHM 1A
0603
MPZ1608B471ATA00
D1
SPE0572
LD1
HSMF-C118
C2
10uF
25V
0603
D5
1N4148
J6
HDR-2.54 Male 1x3
+VBAT_IN
SW4
CUS-12TB
U1
MCP73833-NVI/UN
VDD
VBAT
STAT1
STAT2
TE
THERM
PROG
VSS
NTC
BAT1
Li-BAT 14500/18650
C3
1uF
50V
0603
R1
DNP
0402
1%
C1
1uF
35V
0402
R35
30k
0402
1%
R36
47k
0402
1%
FB2
470 OHM 1A
0603
MPZ1608B471ATA00
R2
R3
R4
470R
0402
5%
R5
2k
0402
1%
R37
10k
0402
1%
USB_VBUS_SENS
Set Ichg to 500mA
Shunt 2.54mm 1x2
HDR-2.54 Male 1x2
JP3
J7
R6
56k
0402
1%
R7
56k
0402
1%
R8
1k
0402
5%
C4
0.1uF
10V
0402
C30
1uF
C31
0.1uF
10V
0402
BAT_SENSE
U2
MIC5317-3.3YD5
VIN
VOUT
EN
GND
NC
C5
1uF
6.3V
0402
JP1
Shunt 2.54mm 1x2
J2
HDR-2.54 Male 1x2
R9
0R
0603
R10
0R
0603
J3
HDR-2.54 Male 1x2
JP4
Shunt 2.54mm 1x2
+VBAT
+3.3V
LD2
HSMF-C118
R11
R12
R13
470R
0402
5%
LED0
LED1
LED2
Testpoints
TP0
TP LOOP Black TH
J10
HDR-2.54 Male 2x20
SENSOR_SDA
SENSOR_UV_ALS_INT
SENSOR_AP_INT
PA27
PB23
SENSOR_SCL
PA01_TP
PA00_TP
LIBAT
PB02
PA20
PA17
BAT_SENSE
PA21
PA24
PA25
PB22
CRYPTO_SCL
CRYPTO_SDA
MCU Supply Filtering
+3.3V_ANA
FB3
470 OHM 1A
0603
MPZ1608B471ATA00
C6
4.7uF
6.3V
0402
C7
4.7uF
6.3V
0402
C8
0.1uF
10V
0402
C9
0.1uF
10V
0402
C10
0.1uF
10V
0402
C11
4.7uF
6.3V
0402
C12
0.1uF
10V
0402
+VDDCORE
L1
LQH3NPN100MJ0
1212
C13
1uF
6.3V
0402
R33
0R
0402
DNP
R34
0R
0402
DNP
X1
32.768kHz
C15
6.8pF
50V
0402
C16
6.8pF
50V
0402
MCU
U3
ATSAML21G18B-MU
VDDANA
VDDIO
VDDIO
VDDIN
VSW
VDDCORE
GNDANA
GND
GND
GND
EP
RESET
PA00
PA01
PA14
PA15
PA02
PA03
PA04
PA05
PA06
PA07
PA08
PA09
PA10
PA11
PA12
PA13
PA16
PA17
PA18
PA19
PA20
PA21
PA22
PA23
PA24
PA25
PA27
PA30
PA31
PB02
PB03
PB08
PB09
PB10
PB11
PB22
PB23
SENSOR_UV_ALS_INT
USB_VBUS_SENS
SWCLK
SWDIO
R44
R45
0R 0402
USB_D_N_CON
USB_D_P_CON
SAML21/WINC1500 UART/USB
DEBUG_RXD
DEBUG_TXD
UART_RXD
UART_TXD
R38
R39
R40
R41
1k
0402
5%
J9
HDR-2.54 Male 2x4
Atmel ICE
J5
HDR-1.27 Male 2x5
R42
R43
330
0402
5%
SWDIO
SWCLK
RESET
R14
R15
R16
1k
0402
5%
SW1
SW2
SW3
TACT SPST
R17
R18
R19
R20
R21
R22
10k
0402
5%
D2
D3
D4
SPE0572
TACT1
TACT2
TACT3
GND
+3.3V
Drawn By:
Gabor Bihari (M91504)
Engineer:
Tim KAM
PartNumber:
**
Project Title
Wi-Fi Portable Sensor Board
Sheet Title
MCU, Power and User Interface
Size
B
Sch #03-**
Revision:C0
Date: Mon 09-Apr-2018 11:29:19
Sheet * of *
File: WiFi_Portable_Sensor_Board_C0_MCU-PWR-UI.SchDoc
MICROCHIP
Designed with Altium
Altium.com



Drawn By: Gabor Bihari (M91504)	MICROCHIP
Engineer: Tim KAM	
PartNumber: **	Project Title: *Wi-Fi Portable Sensor Board*
Sheet Title: Sensors, Crypro and Radio Module	Designed with Altium — Altium.com
Size: B	Sch #03-** · Date: Mon 09-Apr-2018 11:29:19 · Revision: C0 · Sheet * of *
File: WiFi_Portable_Sensor_Board_C0_Sens-Radio.SchDoc	

REV	ECO	Comments	Date



Layer	Name	Material	Thickness	Constant	Board Layer Stack	Board Layer Stack
1	Top Overlay					
2	Top Solder	Solder Resist	0.39mil	3.5		
3	Top Layer	Copper	1.38mil			
4	Dielectric1	FR-4	10.72mil	4.3		
5	GND	Copper	1.38mil			
6	Dielectric 3		39.37mil	4.3		
7	PWR	Copper	1.38mil			
8	Dielectric 2		10.72mil	4.3		
9	Bottom Layer	Copper	1.38mil			
10	Bottom Solder	Solder Resist	0.39mil	3.5		
11	Bottom Overlay					

THIS PCB TO BE MANUFACTURED TO MEET ALL ACCEPTANCE LEVELS OF A CLASS 2 PCB PER ANSI/IPC-A-600G.

MATERIAL: FR-4 or Equivalent

- [X] MULTILAYER [4] LAYERS [ ] CONTROLLED IMPEDANCE
- Cu WEIGHT EXTERNAL LAYERS [35um] FINISHED
- Cu WEIGHT INTERNAL LAYERS [N/A] FINISHED
- FINISHED OVERALL THICKNESS [1.6] mm ± [10] %
- COPPER THIEVING ALLOWED [ ] YES [X] NO

FINISH:

- [X] LEAD-FREE HOT AIR LEVELING
- [ ] IMMERSION GOLD
- [ ] IMMERSION TIN
- [ ] SMOBC WITH SELECTIVE GOLD PLATING ON LANDS INDICATED. 1um GOLD OVER 5-10 um NICKEL

SOLDERMASK: DYNACHEM EPIC 200 LPI OR EQUIVALENT

SOLDERMASK COLOR: GREEN HIGH GLOSS

SILKSCREEN COLOR: WHITE

ALL HOLES TO BE LOCATED BY THE COORDINATES FROM THE NC DRILL DATA PROVIDED.

USE ARTWORK SET NO. 05-** PCB REV C0

ALL UL LOGO, MANUFACTURER'S ID, AND DATE CODES SHALL BE PLACED ON THE BOTTOM SIDE UNLESS OTHERWISE INDICATED.

ANY ALTERNATIVES TO THE ABOVE SPECIFICATIONS MUST FIRST BE APPROVED.

ASSEMBLY NOTES:

1. ALL COMPONENTS SHALL BE RoHS COMPLIANT.
2. ALL UNUSED THROUGH HOLE COMPONENT LOCATIONS SHALL BE FREE OF SOLDER.
3. ALL COMPONENTS SHALL BE MOUNTED FLUSH TO THE BOARD, EXCEPT AS NOTED.
4. FINISHED BOARD SHALL BE FREE OF ALL RESIDUES.
5. ALL LEADS SHALL BE TRIMMED TO A MAXIMUM HEIGHT OF 2mm
6. PLACE LABEL ON THE LOCATION INDICATED.

MICROCHIP
Microchip Technology Inc.
2355 W. Chandler Blvd.
Chandler, AZ 85224

TITLE: Wi-Fi Portable Sensor Board
PART NUMBER: **
ASSEMBLY VARIANT: [No Variations]
PCB DESIGNER: Gabor Bihari (M91504)
GERBER FILE: Multilayer Composite Print
ENGINEER: Tim KAM
BOARD NUMBER: 04-**
DOCUMENT NUMBER: 02-** -D
DATE: Mon 09-Apr-2018
PCB FILE NAME: WiFi_Portable_Sensor_Board_C0_4 NOTES
LAYER NAME:
REV: C0