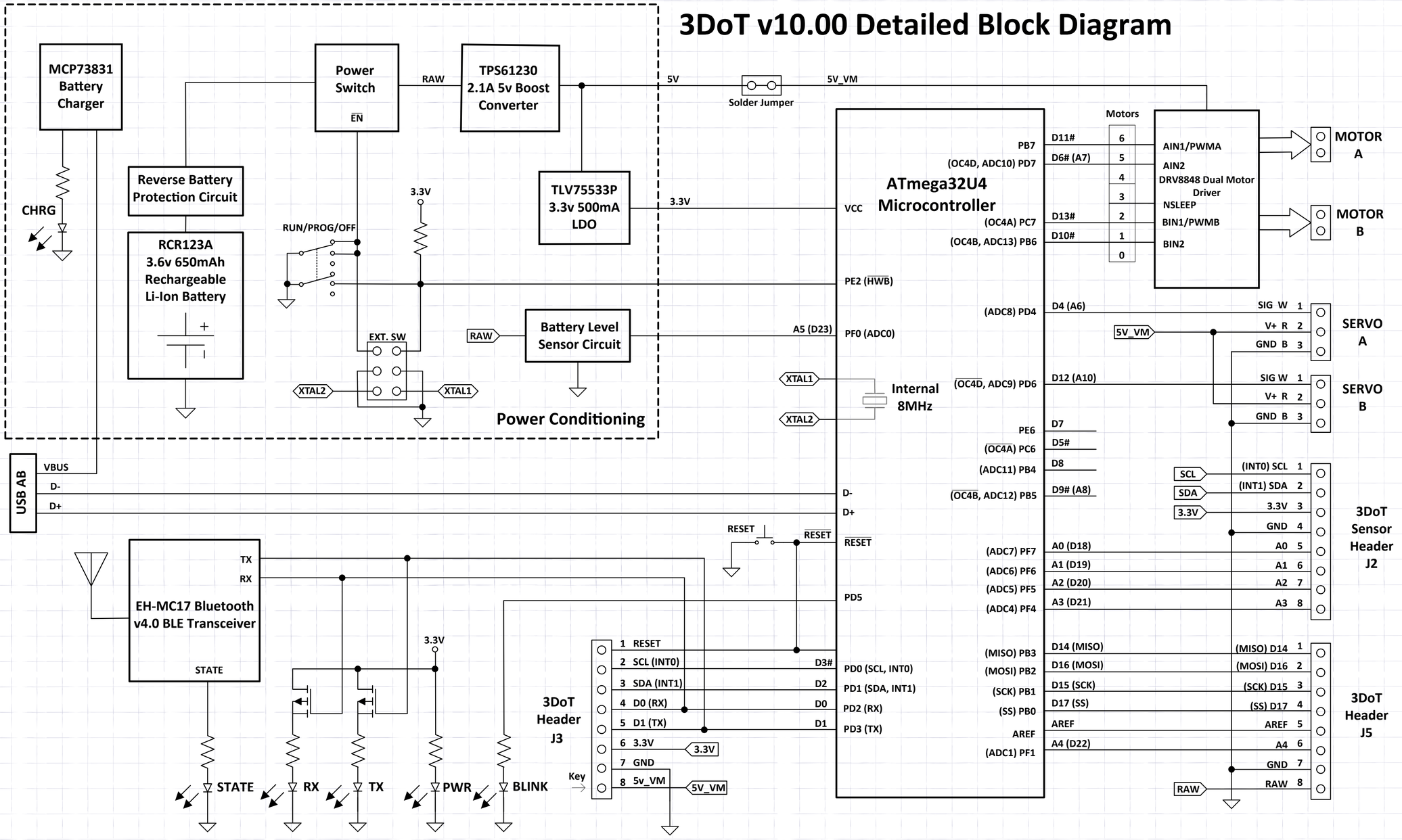
3DoT v10.00 Detailed Block Diagram
MCP73831 Battery Charger
CHRG
Reverse Battery Protection Circuit
RCR123A 3.6v 650mAh Rechargeable Li-Ion Battery
Power Switch
EN
RAW
TPS61230 2.1A 5v Boost Converter
TLV75533P 3.3v 500mA LDO
3.3V
RUN/PROG/OFF
EXT. SW
XTAL2
XTAL1
RAW
Battery Level Sensor Circuit
Power Conditioning
5V
Solder Jumper
5V_VM
USB AB
VBUS
D-
D+
EH-MC17 Bluetooth v4.0 BLE Transceiver
TX
RX
STATE
RESET
3DoT Header J3
1 RESET
2 SCL (INT0)
3 SDA (INT1)
4 D0 (RX)
5 D1 (TX)
6 3.3V
7 GND
8 5v_VM
Key
STATE
RX
TX
PWR
BLINK
ATmega32U4 Microcontroller
VCC
PE2 (HWB)
A5 (D23)
PF0 (ADC0)
XTAL1
XTAL2
Internal 8MHz
D-
D+
RESET
PD5
PD0 (SCL, INT0)
PD1 (SDA, INT1)
PD2 (RX)
PD3 (TX)
PB7
(OC4D, ADC10) PD7
(OC4A) PC7
(OC4B, ADC13) PB6
(ADC8) PD4
(OC4D, ADC9) PD6
PE6
(OC4A) PC6
(ADC11) PB4
(OC4B, ADC12) PB5
(ADC7) PF7
(ADC6) PF6
(ADC5) PF5
(ADC4) PF4
(MISO) PB3
(MOSI) PB2
(SCK) PB1
(SS) PB0
AREF
(ADC1) PF1
D11#
D6# (A7)
D13#
D10#
D4 (A6)
D12 (A10)
D7
D5#
D8
D9# (A8)
A0 (D18)
A1 (D19)
A2 (D20)
A3 (D21)
D14 (MISO)
D16 (MOSI)
D15 (SCK)
D17 (SS)
AREF
A4 (D22)
Motors
6
5
4
3
2
1
0
AIN1/PWMA
AIN2
DRV8848 Dual Motor Driver
NSLEEP
BIN1/PWMB
BIN2
MOTOR A
MOTOR B
SERVO A
SERVO B
SIG W
V+ R
GND B
5V_VM
SCL
SDA
3.3V
3DoT Sensor Header J2
(INT0) SCL
(INT1) SDA
GND
A0
A1
A2
A3
3DoT Header J5
(MISO) D14
(MOSI) D16
(SCK) D15
(SS) D17
AREF
A4
RAW