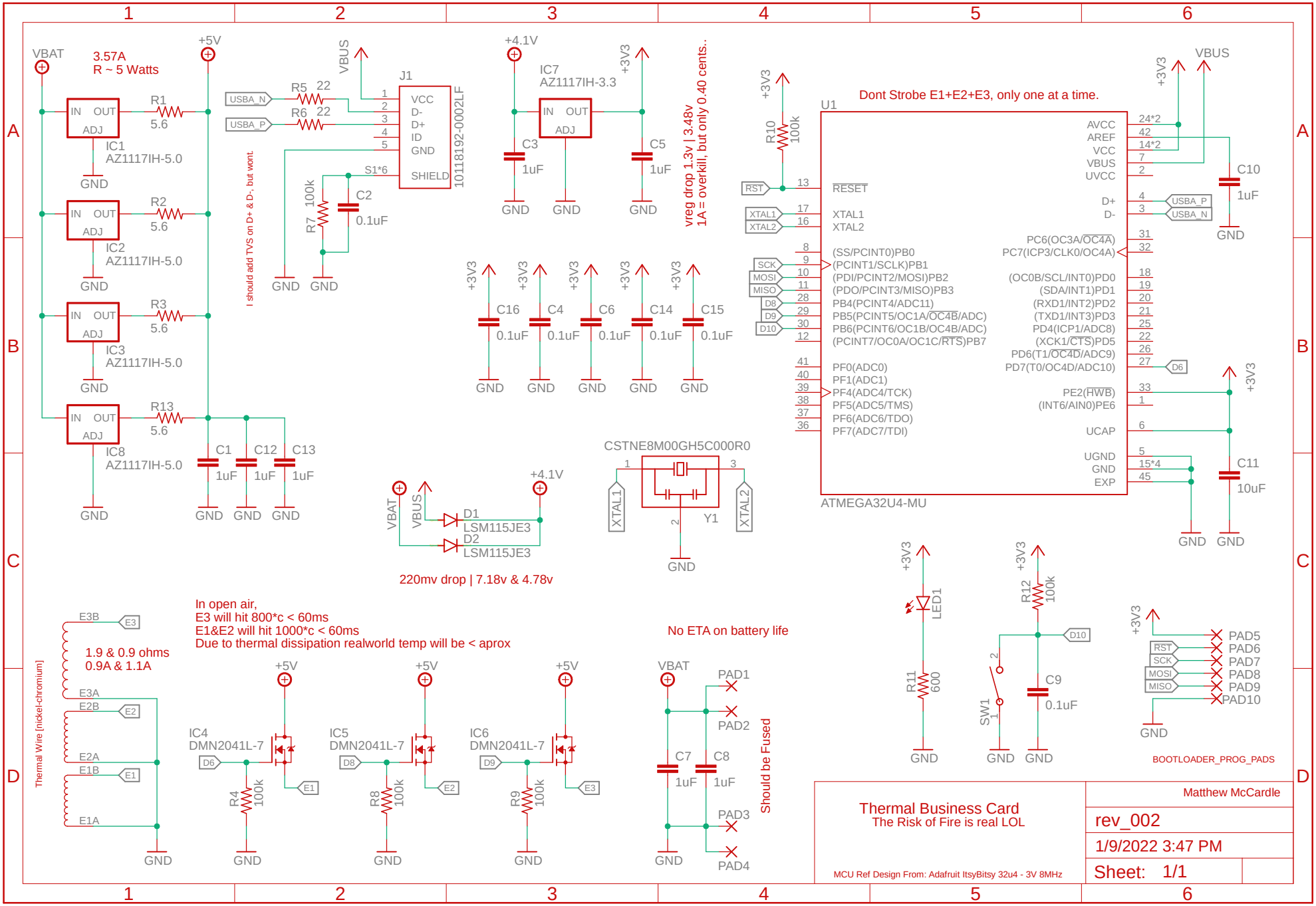
VBAT
3.57A
R ~ 5 Watts
+5V
IN OUT
ADJ
R1 5.6
IC1 AZ1117IH-5.0
R2 5.6
IC2 AZ1117IH-5.0
R3 5.6
IC3 AZ1117IH-5.0
R13 5.6
IC8 AZ1117IH-5.0
GND
C1 1uF
C12 1uF
C13 1uF
VBUS
USBA_N
USBA_P
R5 22
R6 22
J1
VCC
D-
D+
ID
GND
SHIELD
10118192-0002LF
S1*6
R7 100k
C2 0.1uF
I should add TVS on D+ & D-, but wont.
+4.1V
IC7 AZ1117IH-3.3
+3V3
C3 1uF
C5 1uF
vreg drop 1.3v | 3.48v
1A = overkill, but only 0.40 cents..
C16 0.1uF
C4 0.1uF
C6 0.1uF
C14 0.1uF
C15 0.1uF
D1 LSM115JE3
D2 LSM115JE3
220mv drop | 7.18v & 4.78v
CSTNE8M00GH5C000R0
XTAL1
XTAL2
Y1
R10 100k
RST
Dont Strobe E1+E2+E3, only one at a time.
U1
RESET
XTAL1
XTAL2
(SS/PCINT0)PB0
(PCINT1/SCLK)PB1
(PDI/PCINT2/MOSI)PB2
(PDO/PCINT3/MISO)PB3
PB4(PCINT4/ADC11)
PB5(PCINT5/OC1A/OC4B/ADC)
PB6(PCINT6/OC1B/OC4B/ADC)
(PCINT7/OC0A/OC1C/RTS)PB7
PF0(ADC0)
PF1(ADC1)
PF4(ADC4/TCK)
PF5(ADC5/TMS)
PF6(ADC6/TDO)
PF7(ADC7/TDI)
SCK
MOSI
MISO
D8
D9
D10
AVCC
AREF
VCC
VBUS
UVCC
D+
D-
PC6(OC3A/OC4A)
PC7(ICP3/CLK0/OC4A)
(OC0B/SCL/INT0)PD0
(SDA/INT1)PD1
(RXD1/INT2)PD2
(TXD1/INT3)PD3
PD4(ICP1/ADC8)
(XCK1/CTS)PD5
PD6(T1/OC4D/ADC9)
PD7(T0/OC4D/ADC10)
PE2(HWB)
(INT6/AIN0)PE6
UCAP
UGND
GND
EXP
USBA_P
USBA_N
C10 1uF
C11 10uF
ATMEGA32U4-MU
Thermal Wire [nickel-chromium]
E3B
E3A
E2B
E2A
E1B
E1A
1.9 & 0.9 ohms
0.9A & 1.1A
In open air,
E3 will hit 800*c < 60ms
E1&E2 will hit 1000*c < 60ms
Due to thermal dissipation realworld temp will be < aprox
IC4 DMN2041L-7
IC5 DMN2041L-7
IC6 DMN2041L-7
R4 100k
R8 100k
R9 100k
No ETA on battery life
PAD1
PAD2
PAD3
PAD4
C7 1uF
C8 1uF
Should be Fused
LED1
R11 600
R12 100k
SW1
C9 0.1uF
PAD5
PAD6
PAD7
PAD8
PAD9
PAD10
BOOTLOADER_PROG_PADS
Thermal Business Card
The Risk of Fire is real LOL
MCU Ref Design From: Adafruit ItsyBitsy 32u4 - 3V 8MHz
Matthew McCardle
rev_002
1/9/2022 3:47 PM
Sheet: 1/1