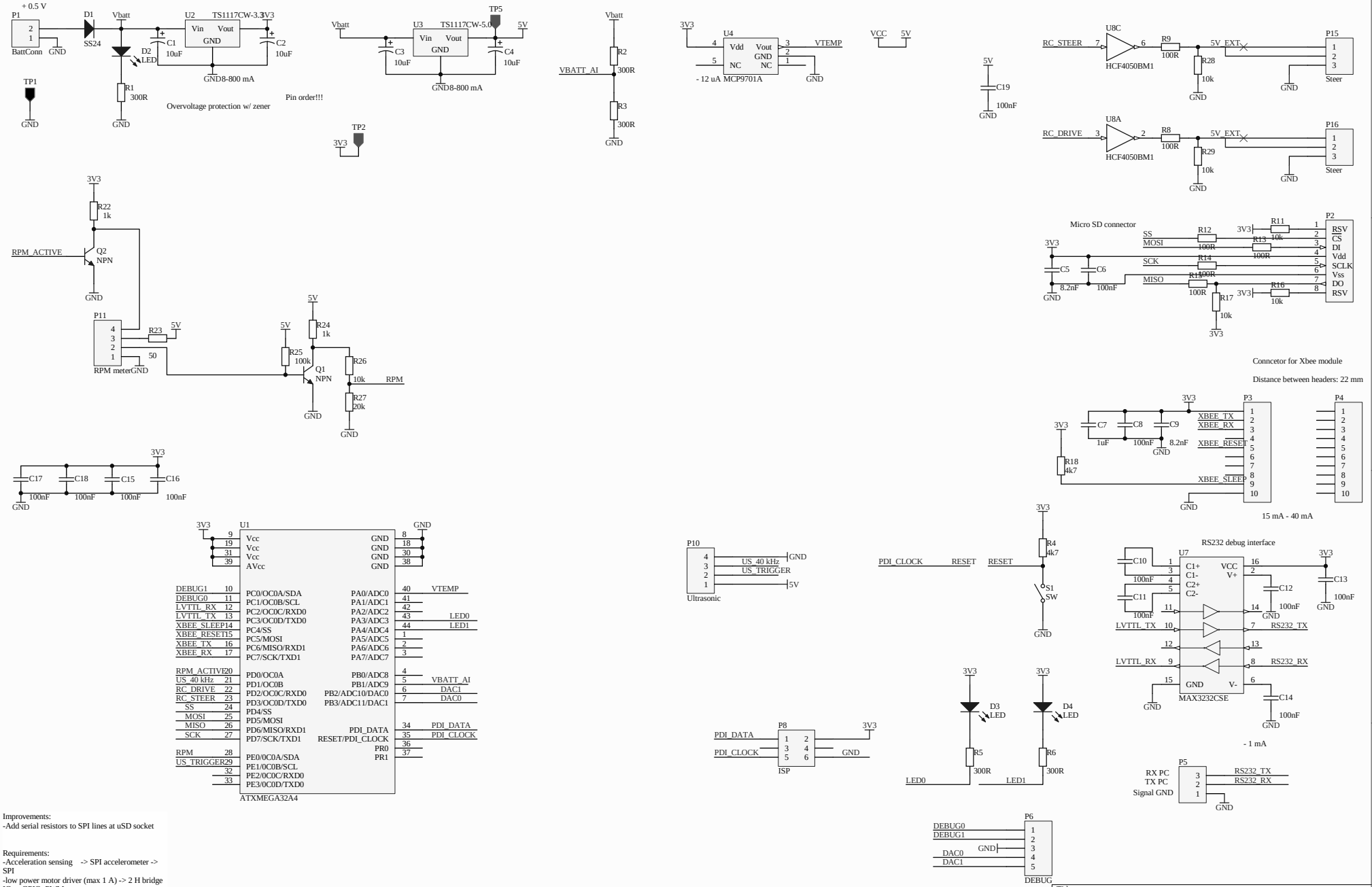
+ 0.5 V
P1
BattConn
GND
D1
SS24
Vbatt
D2
LED
R1
300R
U2
TS1117CW-3.3
Vin
Vout
GND
3V3
C1
10uF
C2
10uF
8-800 mA
TP1
Overvoltage protection w/ zener
Pin order!!!
U3
TS1117CW-5.0
TP5
5V
C3
10uF
C4
10uF
TP2
R2
VBATT_AI
R3
U4
Vdd
NC
VTEMP
- 12 uA MCP9701A
VCC
C19
100nF
U8C
RC_STEER
HCF4050BM1
R9
100R
R28
10k
5V_EXT
P15
Steer
U8A
RC_DRIVE
R8
R29
P16
R22
1k
RPM_ACTIVE
Q2
NPN
P11
RPM meter
R23
50
R24
1k
R25
100k
Q1
R26
10k
RPM
R27
20k
Micro SD connector
SS
MOSI
SCK
MISO
R12
R13
R14
R15
R11
R16
R17
C5
8.2nF
C6
100nF
P2
RSV
CS
DI
Vdd
SCLK
Vss
DO
RSV
Conncetor for Xbee module
Distance between headers: 22 mm
C7
1uF
C8
100nF
C9
8.2nF
R18
4k7
P3
XBEE_TX
XBEE_RX
XBEE_RESET
XBEE_SLEEP
P4
15 mA - 40 mA
C17
C18
C15
C16
U1
ATXMEGA32A4
Vcc
AVcc
PC0/OC0A/SDA
PC1/OC0B/SCL
PC2/OC0C/RXD0
PC3/OC0D/TXD0
PC4/SS
PC5/MOSI
PC6/MISO/RXD1
PC7/SCK/TXD1
PD0/OC0A
PD1/OC0B
PD2/OC0C/RXD0
PD3/OC0D/TXD0
PD4/SS
PD5/MOSI
PD6/MISO/RXD1
PD7/SCK/TXD1
PE0/0C0A/SDA
PE1/0C0B/SCL
PE2/0C0C/RXD0
PE3/0C0D/TXD0
PA0/ADC0
PA1/ADC1
PA2/ADC2
PA3/ADC3
PA4/ADC4
PA5/ADC5
PA6/ADC6
PA7/ADC7
PB0/ADC8
PB1/ADC9
PB2/ADC10/DAC0
PB3/ADC11/DAC1
PDI_DATA
RESET/PDI_CLOCK
PR0
PR1
DEBUG1
DEBUG0
LVTTL_RX
LVTTL_TX
XBEE_SLEEP
XBEE_RESET
XBEE_TX
XBEE_RX
RPM_ACTIVE
US_40 kHz
RC_DRIVE
RC_STEER
SS
MOSI
MISO
SCK
RPM
US_TRIGGER
VTEMP
LED0
LED1
VBATT_AI
DAC1
DAC0
PDI_DATA
PDI_CLOCK
P10
Ultrasonic
US_40 kHz
US_TRIGGER
PDI_CLOCK
RESET
R4
4k7
S1
SW
RS232 debug interface
U7
MAX3232CSE
C1+
C1-
C2+
C2-
VCC
V+
GND
V-
C10
C11
C12
C13
C14
RS232_TX
RS232_RX
- 1 mA
P8
ISP
D3
LED
D4
LED
R5
300R
R6
300R
P5
RX PC
TX PC
Signal GND
P6
DEBUG
DAC0
DAC1
Improvements:
-Add serial resistors to SPI lines at uSD socket
Requirements:
-Acceleration sensing -> SPI accelerometer -> SPI
-low power motor driver (max 1 A) -> 2 H bridge IC -> GPIO, PWM
-trench detection -> Reflective IR optocoupler -> GPIO
-proximity sensing -> Reflective IR optocoupler -> GPIO
-distance measurement -> ultrasonic board -> 40
Title
Size
A3
Number
Revision
Date: 10/5/2013
Sheet of
File: C:_naha\AVR_Board_B\AVR_Board_B.SchDoc
Drawn By: