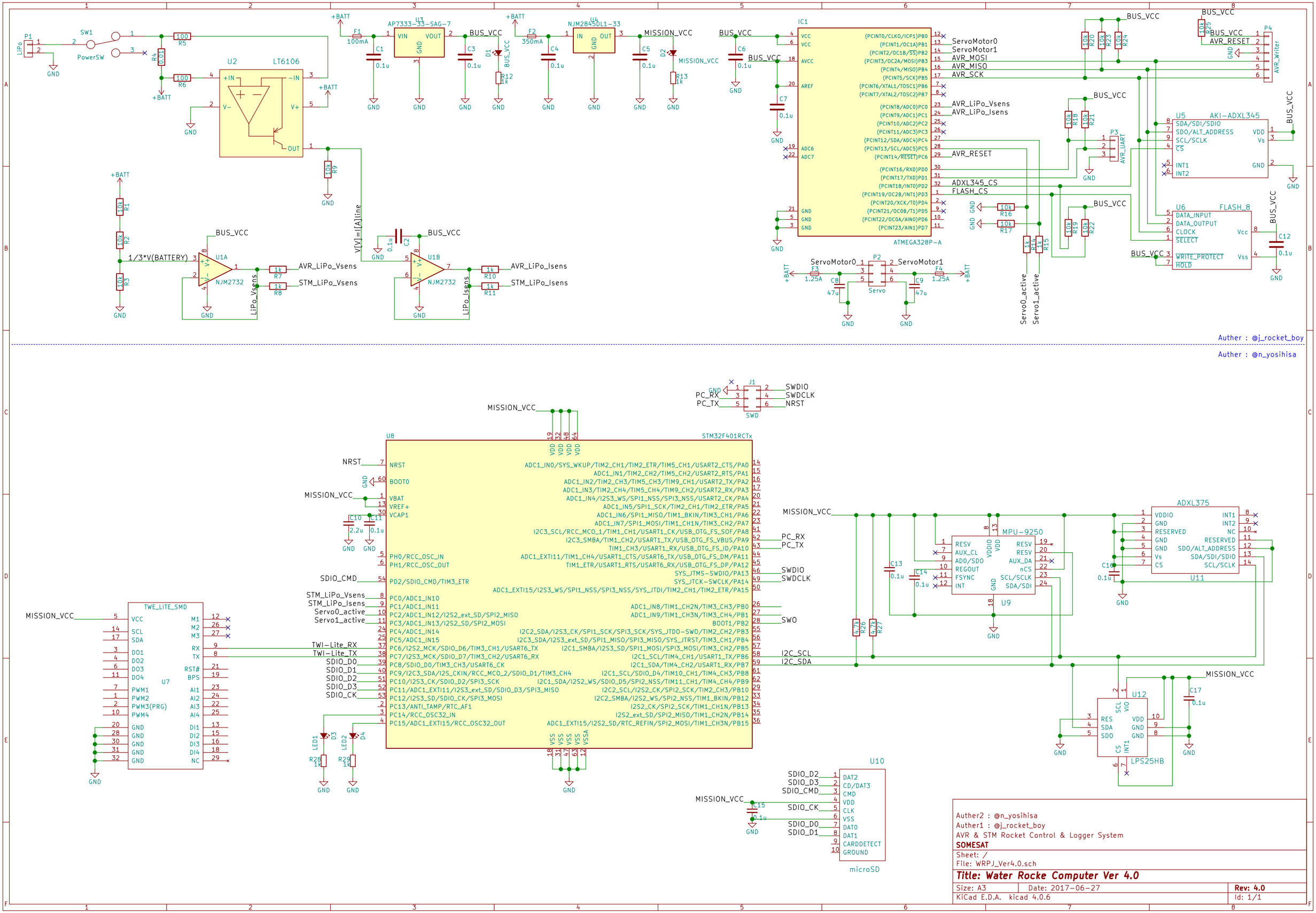
Auther : @j_rocket_boy
Auther : @n_yosihisa
Auther2 : @n_yosihisa
Auther1 : @j_rocket_boy
AVR & STM Rocket Control & Logger System
SOMESAT
Sheet: /
File: WRPJ_Ver4.0.sch
Title: Water Rocke Computer Ver 4.0
Size: A3
Date: 2017-06-27
Rev: 4.0
KiCad E.D.A. kicad 4.0.6
Id: 1/1
LiPo
P1
SW1
PowerSW
R5 100
R6 100
R4 0.01
U2 LT6106
+IN
-IN
V-
V+
OUT
R9 10k
U3 AP7333-33-SAG-7
VIN
VOUT
GND
F1 100mA
C1 0.1u
C3 0.1u
D1
R12 1k
U4 NJM2845DL1-33
IN
OUT
F2 350mA
C4 0.1u
C5 0.1u
D2
R13 1k
MISSION_VCC
BUS_VCC
+BATT
C6 0.1u
C7 0.1u
IC1
ATMEGA328P-A
VCC
AVCC
AREF
ADC6
ADC7
(PCINT0/CLKO/ICP1)PB0
(PCINT1/OC1A)PB1
(PCINT2/OC1B/SS)PB2
(PCINT3/OC2A/MOSI)PB3
(PCINT4/MISO)PB4
(PCINT5/SCK)PB5
(PCINT6/XTAL1/TOSC1)PB6
(PCINT7/XTAL2/TOSC2)PB7
(PCINT8/ADC0)PC0
(PCINT9/ADC1)PC1
(PCINT10/ADC2)PC2
(PCINT11/ADC3)PC3
(PCINT12/SDA/ADC4)PC4
(PCINT13/SCL/ADC5)PC5
(PCINT14/RESET)PC6
(PCINT16/RXD)PD0
(PCINT17/TXD)PD1
(PCINT18/INT0)PD2
(PCINT19/OC2B/INT1)PD3
(PCINT20/XCK/T0)PD4
(PCINT21/OC0B/T1)PD5
(PCINT22/OC0A/AIN0)PD6
(PCINT23/AIN1)PD7
ServoMotor0
ServoMotor1
AVR_MOSI
AVR_MISO
AVR_SCK
AVR_LiPo_Vsens
AVR_LiPo_Isens
AVR_RESET
ADXL345_CS
FLASH_CS
R20 10k
R23 10k
R24 10k
R25 10k
P4
AVR_Writer
R18 10k
R21 10k
P3
AVR_UART
U5 AKI-ADXL345
SDA/SDI/SDIO
SDO/ALT_ADDRESS
SCL/SCLK
CS
INT1
INT2
VDD
Vs
R16 10k
R17 10k
R19 10k
R22 10k
U6 FLASH_8
DATA_INPUT
DATA_OUTPUT
CLOCK
SELECT
WRITE_PROTECT
HOLD
Vcc
Vss
C12 0.1u
R14 1k
R15 1k
Servo0_active
Servo1_active
F3 1.25A
F4 1.25A
C8 47u
C9 47u
P2
Servo
1/3*V(BATTERY)
R1 10k
R2 10k
R3 10k
U1A
NJM2732
R7 1k
R8 1k
AVR_LiPo_Vsens
STM_LiPo_Vsens
LiPo_Vsens
V[V]=I[A]line
C2 0.1u
U1B
R10 1k
R11 1k
AVR_LiPo_Isens
STM_LiPo_Isens
LiPo_Isens
J1
SWD
SWDIO
SWDCLK
NRST
PC_RX
PC_TX
U8
STM32F401RCTx
VDD
VSS
VSSA
BOOT0
VBAT
VREF+
VCAP1
C10 2.2u
C11 0.1u
ADC1_IN0/SYS_WKUP/TIM2_CH1/TIM2_ETR/TIM5_CH1/USART2_CTS/PA0
ADC1_IN1/TIM2_CH2/TIM5_CH2/USART2_RTS/PA1
ADC1_IN2/TIM2_CH3/TIM5_CH3/TIM9_CH1/USART2_TX/PA2
ADC1_IN3/TIM2_CH4/TIM5_CH4/TIM9_CH2/USART2_RX/PA3
ADC1_IN4/I2S3_WS/SPI1_NSS/SPI3_NSS/USART2_CK/PA4
ADC1_IN5/SPI1_SCK/TIM2_CH1/TIM2_ETR/PA5
ADC1_IN6/SPI1_MISO/TIM1_BKIN/TIM3_CH1/PA6
ADC1_IN7/SPI1_MOSI/TIM1_CH1N/TIM3_CH2/PA7
I2C3_SCL/RCC_MCO_1/TIM1_CH1/USART1_CK/USB_OTG_FS_SOF/PA8
I2C3_SMBA/TIM1_CH2/USART1_TX/USB_OTG_FS_VBUS/PA9
TIM1_CH3/USART1_RX/USB_OTG_FS_ID/PA10
ADC1_EXTI11/TIM1_CH4/USART1_CTS/USART6_TX/USB_OTG_FS_DM/PA11
TIM1_ETR/USART1_RTS/USART6_RX/USB_OTG_FS_DP/PA12
SYS_JTMS-SWDIO/PA13
SYS_JTCK-SWCLK/PA14
ADC1_EXTI15/I2S3_WS/SPI1_NSS/SPI3_NSS/SYS_JTDI/TIM2_CH1/TIM2_ETR/PA15
PH0/RCC_OSC_IN
PH1/RCC_OSC_OUT
PD2/SDIO_CMD/TIM3_ETR
PC0/ADC1_IN10
PC1/ADC1_IN11
PC2/ADC1_IN12/I2S2_ext_SD/SPI2_MISO
PC3/ADC1_IN13/I2S2_SD/SPI2_MOSI
PC4/ADC1_IN14
PC5/ADC1_IN15
PC6/I2S2_MCK/SDIO_D6/TIM3_CH1/USART6_TX
PC7/I2S3_MCK/SDIO_D7/TIM3_CH2/USART6_RX
PC8/SDIO_D0/TIM3_CH3/USART6_CK
PC9/I2C3_SDA/I2S_CKIN/RCC_MCO_2/SDIO_D1/TIM3_CH4
PC10/I2S3_CK/SDIO_D2/SPI3_SCK
PC11/ADC1_EXTI11/I2S3_ext_SD/SDIO_D3/SPI3_MISO
PC12/I2S3_SD/SDIO_CK/SPI3_MOSI
PC13/ANTI_TAMP/RTC_AF1
PC14/RCC_OSC32_IN
PC15/ADC1_EXTI15/RCC_OSC32_OUT
ADC1_IN8/TIM1_CH2N/TIM3_CH3/PB0
ADC1_IN9/TIM1_CH3N/TIM3_CH4/PB1
BOOT1/PB2
I2C2_SDA/I2S3_CK/SPI1_SCK/SPI3_SCK/SYS_JTDO-SWO/TIM2_CH2/PB3
I2C3_SDA/I2S3_ext_SD/SPI1_MISO/SPI3_MISO/SYS_JTRST/TIM3_CH1/PB4
I2C1_SMBA/I2S3_SD/SPI1_MOSI/SPI3_MOSI/TIM3_CH2/PB5
I2C1_SCL/TIM4_CH1/USART1_TX/PB6
I2C1_SDA/TIM4_CH2/USART1_RX/PB7
I2C1_SCL/SDIO_D4/TIM10_CH1/TIM4_CH3/PB8
I2C1_SDA/I2S2_WS/SDIO_D5/SPI2_NSS/TIM11_CH1/TIM4_CH4/PB9
I2C2_SCL/I2S2_CK/SPI2_SCK/TIM2_CH3/PB10
I2C2_SMBA/I2S2_WS/SPI2_NSS/TIM1_BKIN/PB12
I2S2_CK/SPI2_SCK/TIM1_CH1N/PB13
I2S2_ext_SD/SPI2_MISO/TIM1_CH2N/PB14
ADC1_EXTI15/I2S2_SD/RTC_REFIN/SPI2_MOSI/TIM1_CH3N/PB15
SDIO_CMD
STM_LiPo_Vsens
STM_LiPo_Isens
Servo0_active
Servo1_active
TWI-Lite_RX
TWI-Lite_TX
SDIO_D0
SDIO_D1
SDIO_D2
SDIO_D3
SDIO_CK
LED1 D3
LED2 D4
R28 1k
R29 1k
TWE_LITE_SMD
U7
VCC
SCL
SDA
DO1
DO2
DO3
DO4
PWM1
PWM2
PWM3(PRG)
PWM4
M1
M2
M3
RX
TX
RST#
BPS
AI1
AI2
AI3
AI4
DI1
DI2
DI3
DI4
NC
MPU-9250
U9
RESV
AUX_CL
AD0/SDO
REGOUT
FSYNC
INT
VDDIO
AUX_DA
nCS
SCL/SCLK
SDA/SDI
R26 4.7k
R27 4.7k
C13 0.1u
C14 0.1u
ADXL375
U11
VDDIO
RESERVED
Vs
INT1
INT2
NC
SDO/ALT_ADDRESS
SDA/SDI/SDIO
SCL/SCLK
C16 0.1u
I2C_SCL
I2C_SDA
SWO
U12
LPS25HB
RES
SDA
SDO
CS
INT1
VIO
C17 0.1u
U10
microSD
DAT2
CD/DAT3
CMD
VDD
CLK
VSS
DAT0
DAT1
CARDDETECT
GROUND
C15 0.1u