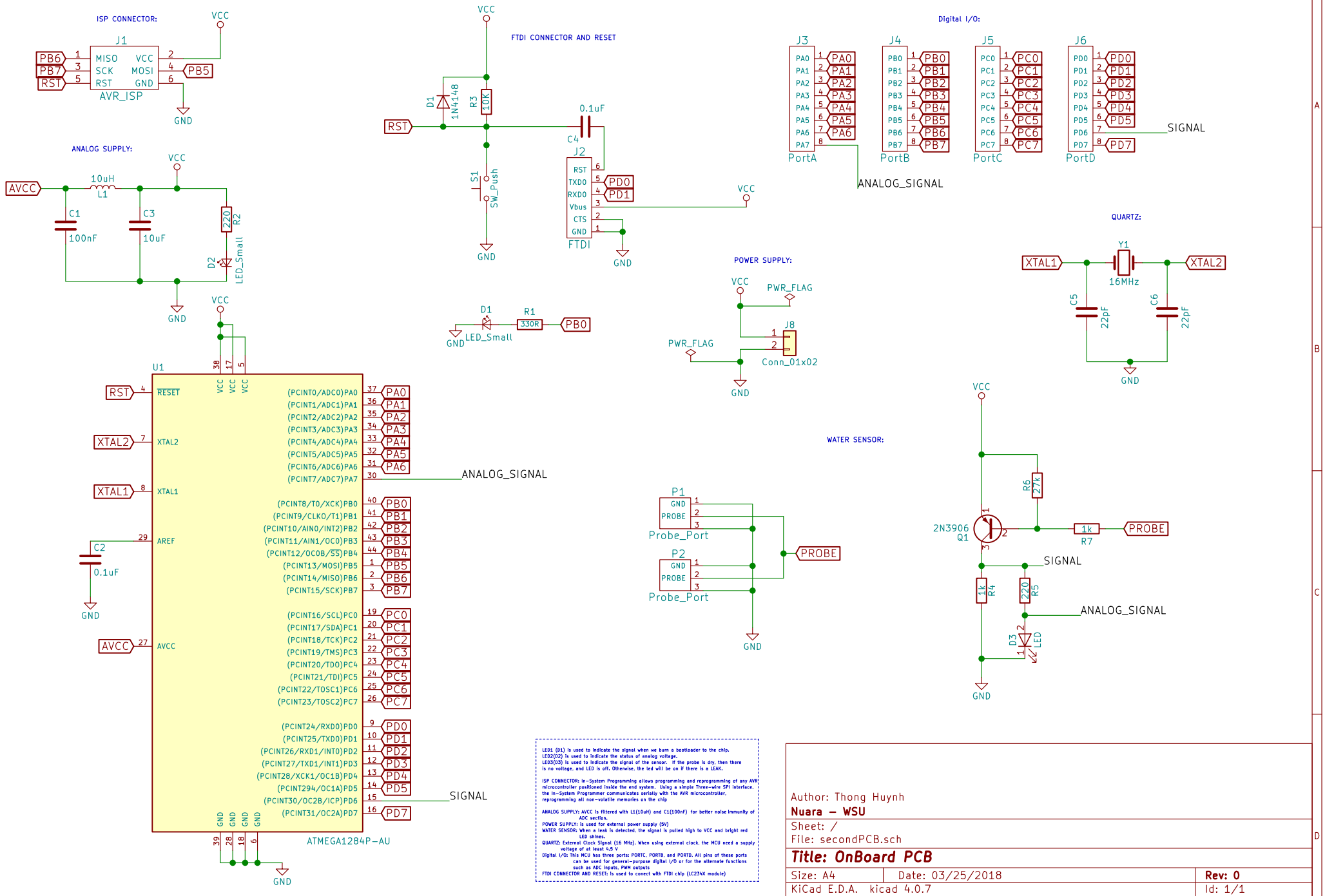
ISP CONNECTOR:
J1
AVR_ISP
FTDI CONNECTOR AND RESET
FTDI
Digital I/O:
J3
PortA
J4
PortB
J5
PortC
J6
PortD
ANALOG_SUPPLY:
POWER SUPPLY:
PWR_FLAG
J8
Conn_01x02
QUARTZ:
16MHz
WATER SENSOR:
2N3906
Q1
LED_Small
SW_Push
U1
ATMEGA1284P-AU
Probe_Port
ANALOG_SIGNAL
SIGNAL
PROBE
LED1 (D1) is used to indicate the signal when we burn a bootloader to the chip.
LED2(D2) is used to indicate the status of analog voltage.
LED3(D3) is used to indicate the signal of the sensor. If the probe is dry, then there is no voltage, and LED is off. Otherwise, the led will be on if there is a LEAK.
ISP CONNECTOR: In-System Programming allows programming and reprogramming of any AVR microcontroller positioned inside the end system. Using a simple Three-wire SPI interface, the In-System Programmer communicates serially with the AVR microcontroller, reprogramming all non-volatile memories on the chip
ANALOG SUPPLY: AVCC is filtered with L1(10uH) and C1(100nF) for better noise immunity of ADC section.
POWER SUPPLY: Is used for external power supply (5V)
WATER SENSOR: When a leak is detected, the signal is pulled high to VCC and bright red LED shines.
QUARTZ: External Clock Signal (16 MHz). When using external clock, the MCU need a supply voltage of at least 4.5 V
Digital I/Os: This MCU has three ports: PORTC, PORTB, and PORTD. All pins of these ports can be used for general-purpose digital I/O or for the alternate functions such as ADC inputs, PWM outputs
FTDI CONNECTOR AND RESET: Is used to conect with FTDI chip (LC234X module)
Author: Thong Huynh
Nuara – WSU
Sheet: /
File: secondPCB.sch
Title: OnBoard PCB
Size: A4
Date: 03/25/2018
Rev: 0
KiCad E.D.A. kicad 4.0.7
Id: 1/1