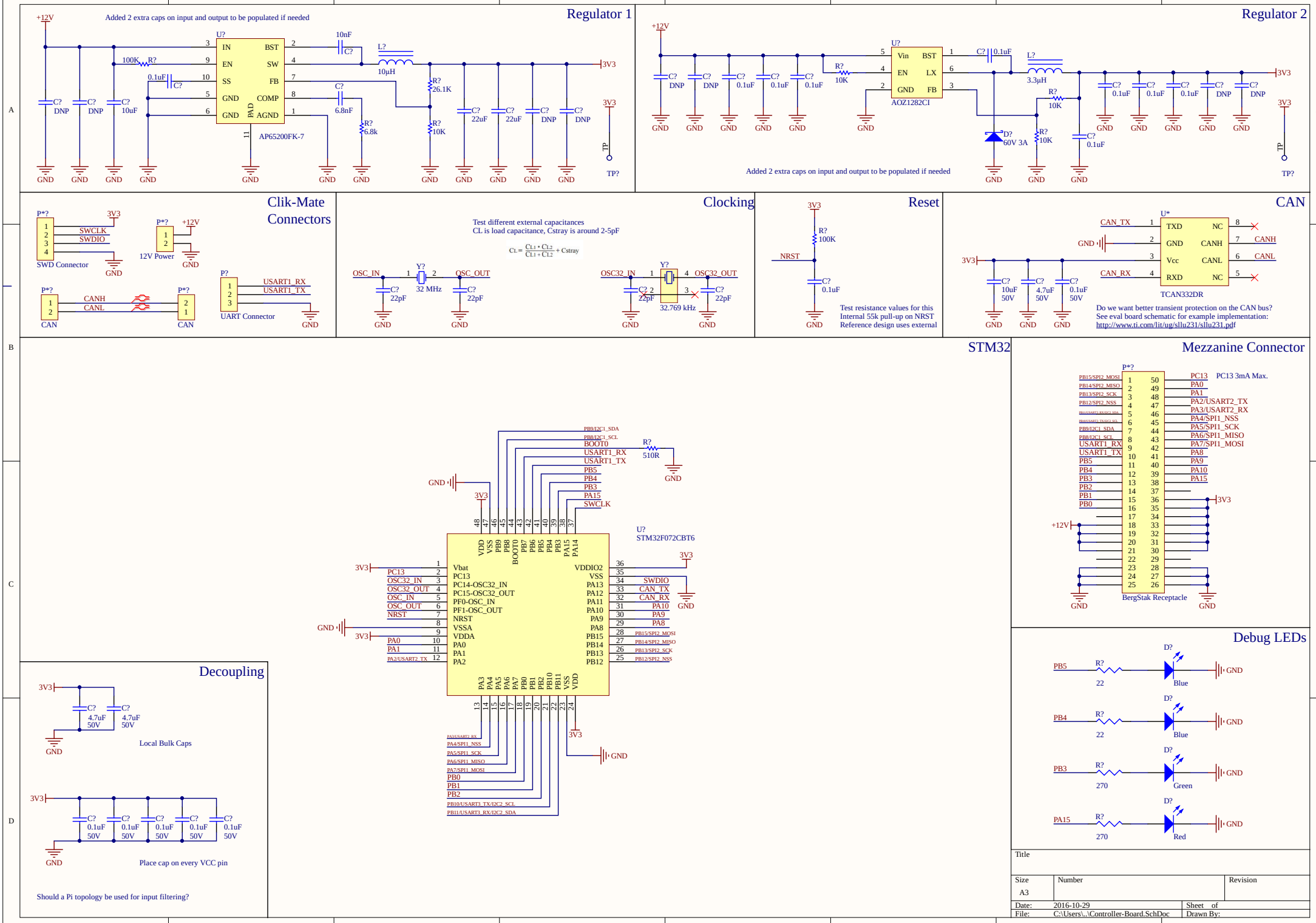
Regulator 1
Added 2 extra caps on input and output to be populated if needed
+12V
U?
IN
EN
SS
GND
GND
BST
SW
FB
COMP
AGND
PAD
AP65200FK-7
100K
R?
0.1uF
C?
10nF
L?
10µH
R?
26.1K
R?
10K
R?
6.8k
6.8nF
C?
DNP
10uF
22uF
3V3
TP
TP?
GND
Regulator 2
Vin
BST
EN
LX
GND
FB
AOZ1282CI
0.1uF
3.3µH
D?
60V 3A
Added 2 extra caps on input and output to be populated if needed
Clik-Mate Connectors
P*?
SWCLK
SWDIO
SWD Connector
12V Power
CANH
CANL
CAN
P?
USART1_RX
USART1_TX
UART Connector
Clocking
Test different external capacitances
CL is load capacitance, Cstray is around 2-5pF
OSC_IN
OSC_OUT
Y?
32 MHz
22pF
OSC32_IN
OSC32_OUT
32.769 kHz
Reset
R?
100K
NRST
C?
0.1uF
Test resistance values for this
Internal 55k pull-up on NRST
Reference design uses external
CAN
U*
TXD
GND
Vcc
RXD
NC
CANH
CANL
CAN_TX
CAN_RX
TCAN332DR
10uF
50V
4.7uF
50V
Do we want better transient protection on the CAN bus?
See eval board schematic for example implementation:
http://www.ti.com/lit/ug/sllu231/sllu231.pdf
STM32
U?
STM32F072CBT6
Vbat
PC13
PC14-OSC32_IN
PC15-OSC32_OUT
PF0-OSC_IN
PF1-OSC_OUT
NRST
VSSA
VDDA
PA0
PA1
PA2
VDDIO2
VSS
PA13
PA12
PA11
PA10
PA9
PA8
PB15
PB14
PB13
PB12
VDD
VSS
PB9
PB8
BOOT0
PB7
PB6
PB5
PB4
PB3
PA15
PA14
PA3
PA4
PA5
PA6
PA7
PB0
PB1
PB2
PB10
PB11
SWDIO
CAN_TX
CAN_RX
PA10
PA9
PA8
PB15/SPI2_MOSI
PB14/SPI2_MISO
PB13/SPI2_SCK
PB12/SPI2_NSS
PB10/USART3_TX/I2C2_SCL
PB11/USART3_RX/I2C2_SDA
PA3/USART2_RX
PA4/SPI1_NSS
PA5/SPI1_SCK
PA6/SPI1_MISO
PA7/SPI1_MOSI
R?
510R
Mezzanine Connector
P*?
PC13
PA0
PA1
PA2/USART2_TX
PA3/USART2_RX
PA4/SPI1_NSS
PA5/SPI1_SCK
PA6/SPI1_MISO
PA7/SPI1_MOSI
PA8
PA9
PA10
PA15
PC13 3mA Max.
BergStak Receptacle
Decoupling
Local Bulk Caps
Place cap on every VCC pin
Debug LEDs
D?
Blue
Green
Red
22
270
Title
Size
A3
Number
Revision
Date:
2016-10-29
Sheet of
File:
C:\Users\..\Controller-Board.SchDoc
Drawn By: