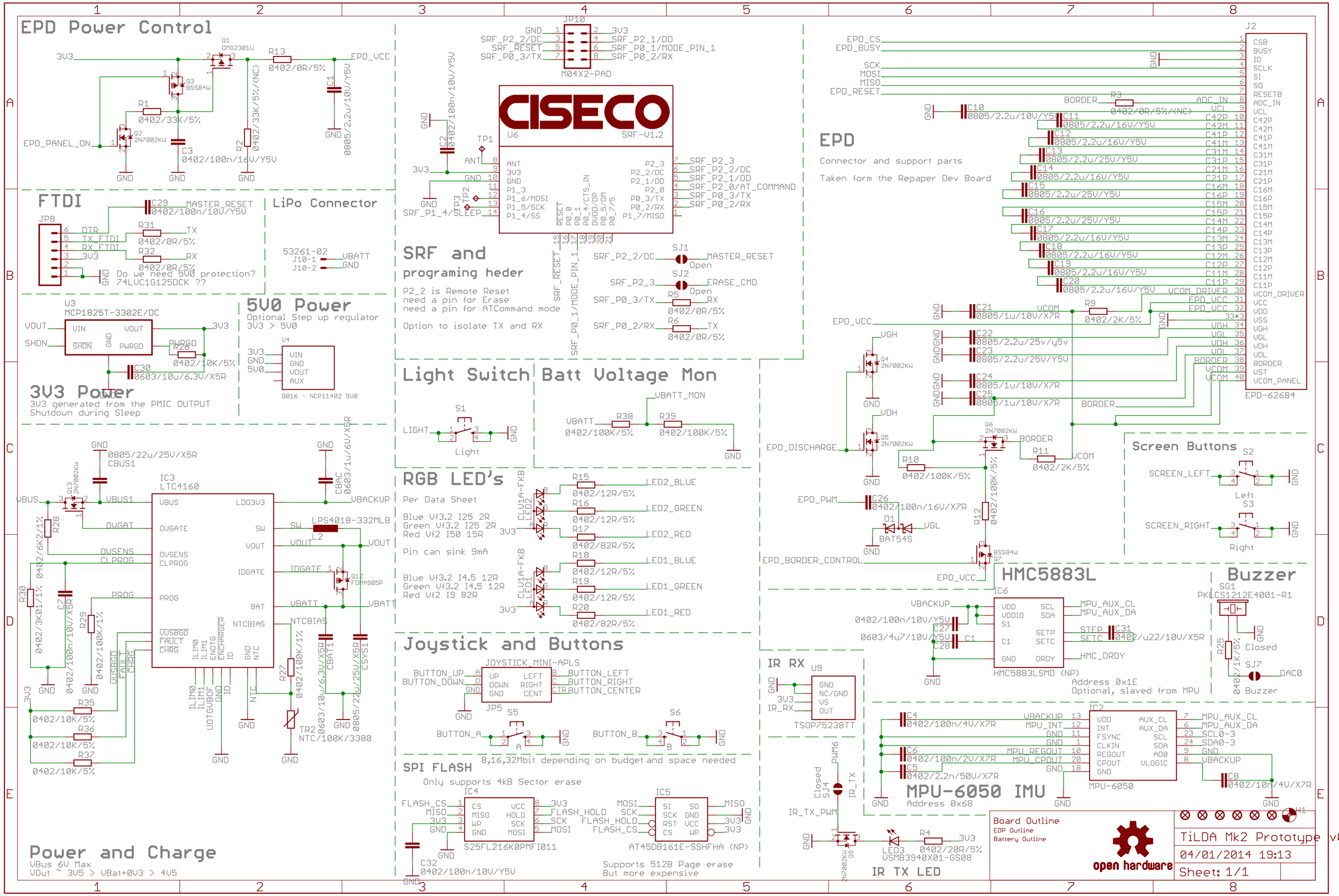
EPD Power Control
Q1 DMG2301U
R13 0402/0R/5%
EPD_VCC
3V3
Q3 BSS84W
R1 0402/33K/5%
Q2 2N7002KW
EPD_PANEL_ON
C3 0402/100n/16V/Y5V
R2 0402/33K/5%(NC)
C1 0805/2.2u/10V/Y5V
GND
FTDI
JP8
C29 0402/100n/10V/Y5V
MASTER_RESET
R31 0402/0R/5%
R32 0402/0R/5%
TX
RX
DTR
TX_FTDI
RX_FTDI
Do we need 5V0 protection?
74LVC1G125DCK ??
LiPo Connector
53261-02
J10-1
J10-2
VBATT
5V0 Power
Optional Step up regulator
3V3 > 5V0
U4
B016 - NCP11402 5V0
U3
MCP1825T-3302E/DC
VOUT
SHDN
VIN
PWRGD
R26 0402/10K/5%
C30 0603/10u/6.3V/X5R
3V3 Power
3V3 generated from the PMIC OUTPUT
Shutdown during Sleep
JP10
M04X2-PAD
SRF_P2_2/DC
SRF_RESET
SRF_P0_3/TX
SRF_P2_1/DD
SRF_P0_1/MODE_PIN_1
SRF_P0_2/RX
C2 0402/100n/10V/Y5V
TP1
TP2
TP3
SRF_P1_4/SLEEP
CISECO
U6
SRF-V1.2
ANT
P1_3
P1_6/MOSI
P1_5/SCK
P1_4/SS
P2_3
P2_2/DC
P2_1/DD
P2_0
P0_3/TX
P0_2/RX
P1_7/MISO
SRF_P2_0/AT_COMMAND
SRF and
programing heder
P2_2 is Remote Reset
need a pin for Erase
need a pin for ATCommand mode
Option to isolate TX and RX
SJ1
SJ2
Open
ERASE_CMD
R5 0402/0R/5%
R6 0402/0R/5%
Light Switch
S1
LIGHT
Light
Batt Voltage Mon
VBATT_MON
R38 0402/100K/5%
R39 0402/100K/5%
RGB LED's
Per Data Sheet
Blue Vf3.2 I25 2R
Green Vf3.2 I25 2R
Red Vf2 I50 15R
Pin can sink 9mA
Blue Vf3.2 I4.5 12R
Green Vf3.2 I4.5 12R
Red Vf2 I9 82R
CLU1A-FKB
LED2
LED1
R15 0402/12R/5%
R16 0402/12R/5%
R17 0402/82R/5%
R18 0402/12R/5%
R19 0402/12R/5%
R20 0402/82R/5%
LED2_BLUE
LED2_GREEN
LED2_RED
LED1_BLUE
LED1_GREEN
LED1_RED
Joystick and Buttons
JOYSTICK_MINI-APLS
BUTTON_UP
BUTTON_DOWN
BUTTON_LEFT
BUTTON_RIGHT
BUTTON_CENTER
JP5
S5
S6
BUTTON_A
BUTTON_B
SPI FLASH
8,16,32Mbit depending on budget and space needed
Only supports 4kB Sector erase
IC4
S25FL216K0PMFI011
IC5
AT45DB161E-SSHFHA (NP)
Supports 512B Page erase
But more expensive
C32 0402/100n/10V/Y5V
Power and Charge
VBus 6V Max
VOut ~ 3V5 > VBat+0V3 > 4V5
IC3
LTC4160
0805/22u/25V/X5R
CBUS1
CBAC 0603/1u/6V/X5R
VBUS
VBUS1
OVGATE
OVSENS
CLPROG
PROG
VUSBGD
FAULT
CHRG
LDO3V3
SW
VOUT
IDGATE
BAT
NTCBIAS
VBACKUP
LPS4018-332MLB
L2
Q12 FDMA905P
VBATT
CBAT1 0603/10u/6.3V/X5R
CSYS1 0805/22u/25V/X5R
R27 0402/100k/1%
TR2 NTC/100K/3380
R28 0402/6K2/1%
R30 0402/3K01/1%
C7 0402/100n/10V/X5R
R29 0402/100k/1%
R35 0402/10K/5%
R36 0402/10K/5%
R37 0402/10K/5%
EPD
Connector and support parts
Taken form the Repaper Dev Board
J2
EPD-62684
EPD_CS
EPD_BUSY
SCK
MOSI
MISO
EPD_RESET
BORDER
R3 0402/0R/5%(NC)
ADC_IN
VCL
VCOM_DRIVER
VCC
VDD
VSS
VGH
VGL
VDH
VDL
VST
VCOM_PANEL
C10 0805/2.2u/10V/Y5V
C11 0805/2.2u/16V/Y5V
C12 0805/2.2u/16V/Y5V
C13 0805/2.2u/25V/Y5V
C14 0805/2.2u/16V/Y5V
C15 0805/2.2u/25V/Y5V
C16 0805/2.2u/25V/Y5V
C17 0805/2.2u/16V/Y5V
C18 0805/2.2u/16V/Y5V
C19 0805/2.2u/16V/Y5V
C20 0805/2.2u/16V/Y5V
C21 0805/1u/10V/X7R
C22 0805/2.2u/25v/y5v
C23 0805/2.2u/25V/Y5V
C24 0805/1u/10V/X7R
C25 0805/1u/10V/X7R
R9 0402/2K/5%
Q4 2N7002KW
Q5 2N7002KW
Q6 2N7002KW
Q7 BSS84W
EPD_DISCHARGE
EPD_PWM
EPD_BORDER_CONTROL
R10 0402/100K/5%
R11 0402/2K/5%
R12 0402/100K/5%
C26 0402/100n/16V/X7R
D1 BAT54S
Screen Buttons
S2
S3
SCREEN_LEFT
SCREEN_RIGHT
Left
Right
HMC5883L
IC6
HMC5883LSMD (NP)
Address 0x1E
Optional, slaved from MPU
VDD
VDDIO
S1
C1
SCL
SDA
SETP
SETC
DRDY
MPU_AUX_CL
MPU_AUX_DA
HMC_DRDY
C27 0402/u22/10V/X5R
C28 0603/4u7/10V/Y5V
Buzzer
SG1
PKLCS1212E4001-R1
R25 0402/1K/5%
SJ7
DAC0
IR RX
U9
TSOP75238TT
IR_RX
IR_TX
IR_TX_PWM
PWM6
SJ4
Closed
IR TX LED
LED3 VSMB3940X01-GS08
R4 0402/20R/5%
MPU-6050 IMU
IC2
MPU-6050
Address 0x68
C4 0402/100n/4V/X7R
C6 0402/100n/2V/X7R
C5 0402/2.2n/50V/X7R
C8 0402/10n/4V/X7R
MPU_INT
MPU_REGOUT
MPU_CPOUT
AUX_CL
AUX_DA
FSYNC
CLKIN
REGOUT
CPOUT
AD0
VLOGIC
SCL0-3
SDA0-3
Board Outline
EDP Outline
Battery Outline
open hardware
TiLDA Mk2 Prototype v0.1
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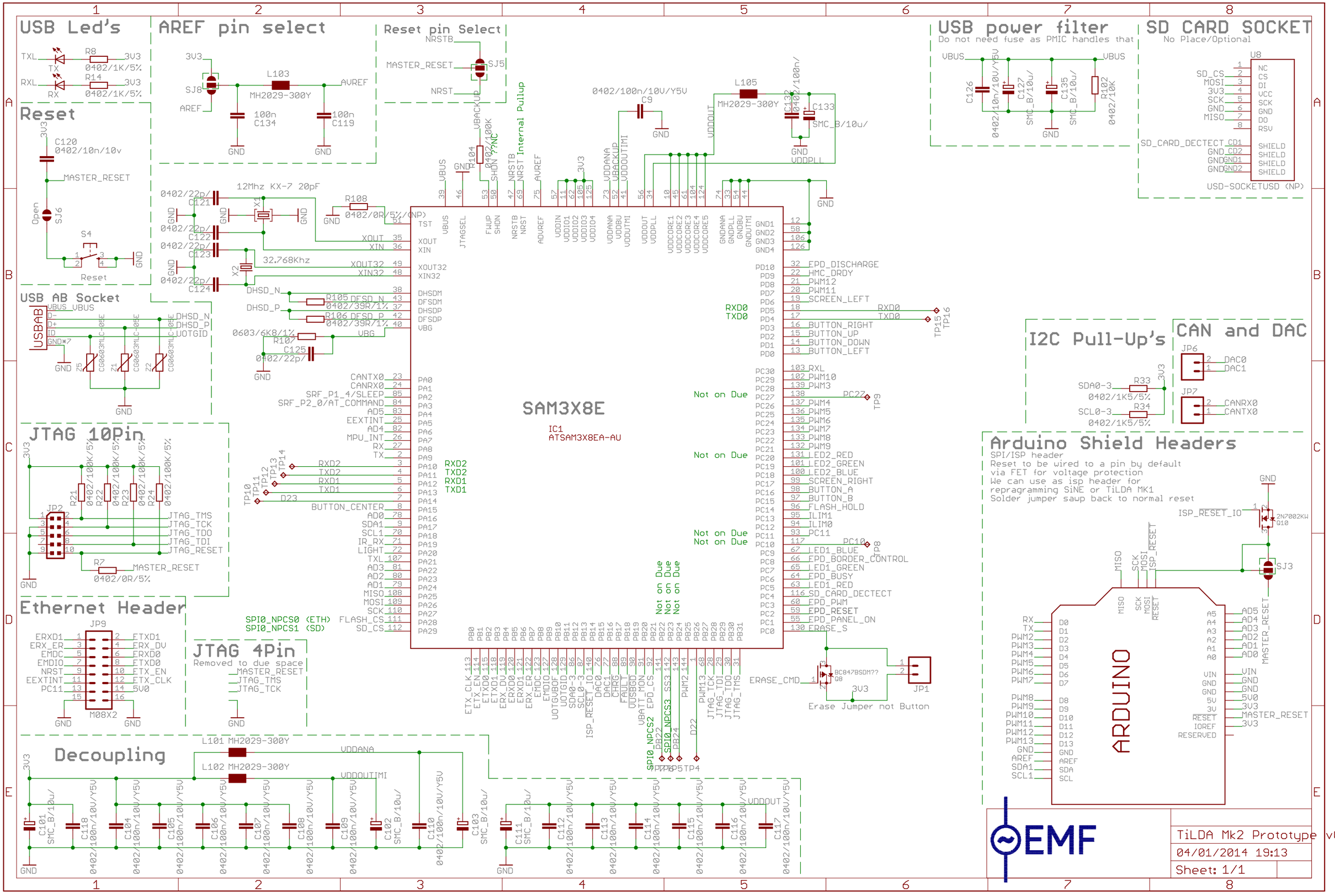
Sheet: 1/1


USB Led's
AREF pin select
Reset pin Select
USB power filter
Do not need fuse as PMIC handles that
SD CARD SOCKET
No Place/Optional
Reset
USB AB Socket
JTAG 10Pin
Ethernet Header
JTAG 4Pin
Removed to due space
Decoupling
SAM3X8E
IC1
ATSAM3X8EA-AU
I2C Pull-Up's
CAN and DAC
Arduino Shield Headers
SPI/ISP header
Reset to be wired to a pin by default
via FET for voltage protection
We can use as isp header for
repragramming SiNE or TiLDA MK1
Solder jumper sawp back to normal reset
ARDUINO
Erase Jumper not Button
EMF
TiLDA Mk2 Prototype v0.1
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Sheet: 1/1