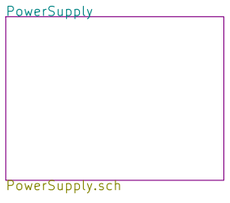

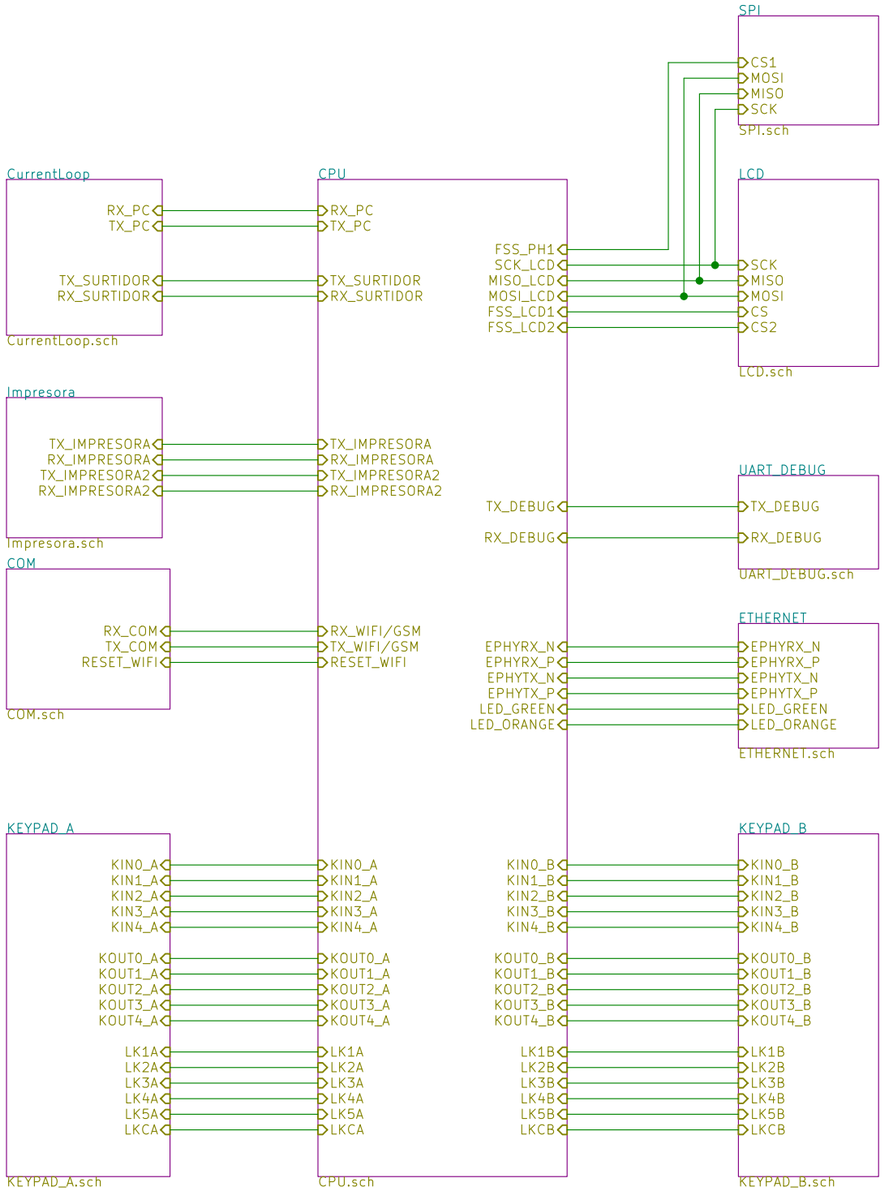

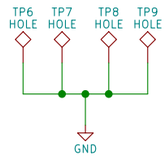

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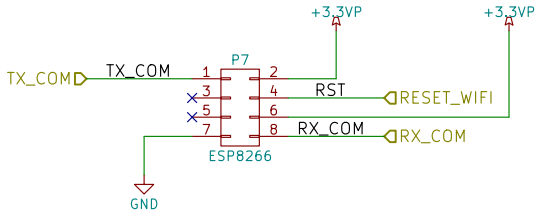
Sheet: /
File: GRP.sch

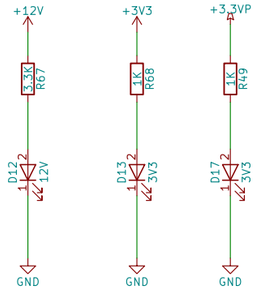
Title: MODULO CONTROLADOR GRP

Size: A3	Date: 2017-03-04	**Rev: C**
KiCad E.D.A. kicad 4.0.6-e0-6349~53ubuntu16.04.1		Id: 1/12



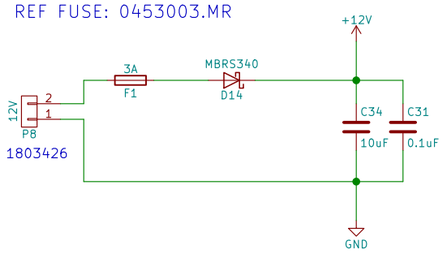
Sheet: /COM/ File: COM.sch		
Title: COMM PORT		
Size: A4	Date: 2017-03-04	**Rev: B**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 2/12

LED

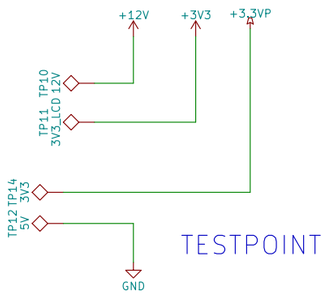


INPUT MAX 17VDC

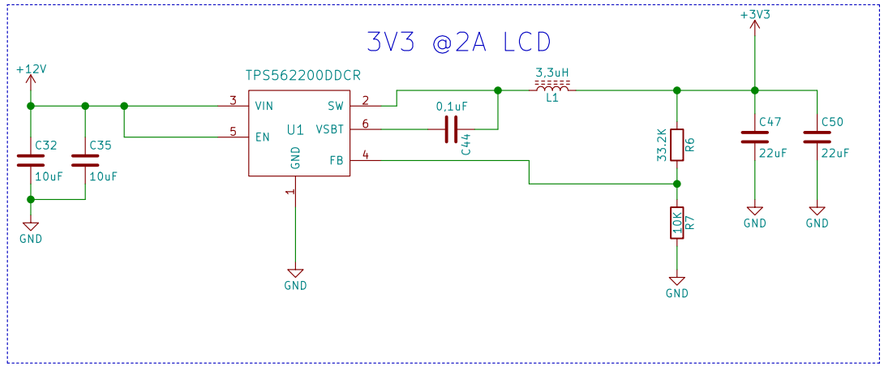
REF FUSE: 0453003.MR



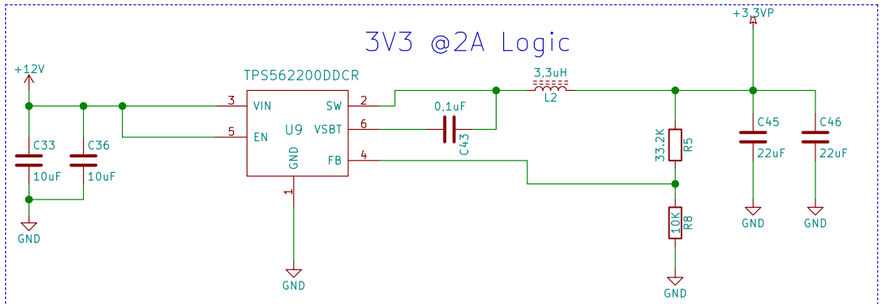
TESTPOINT



3V3 @2A LCD



3V3 @2A Logic



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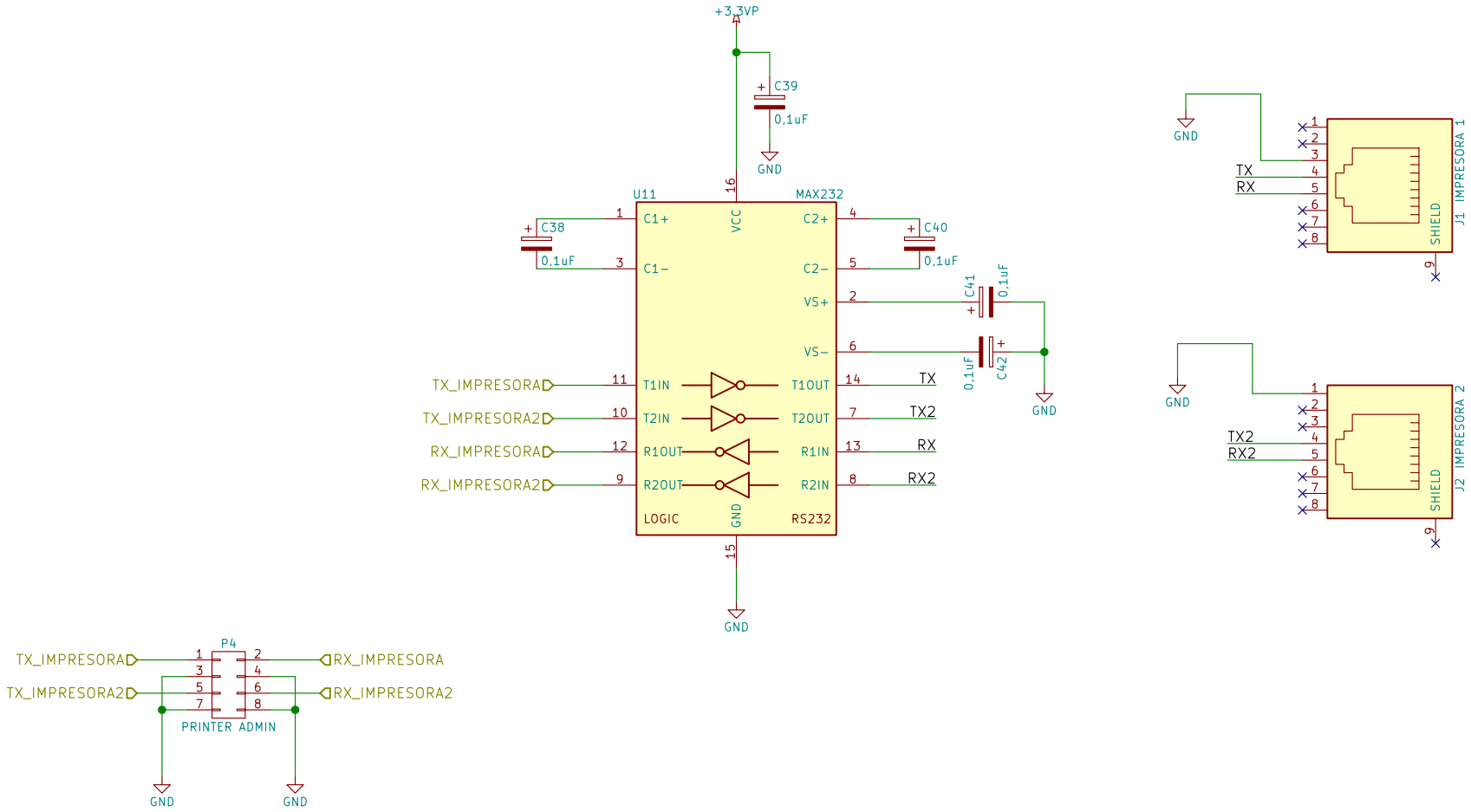
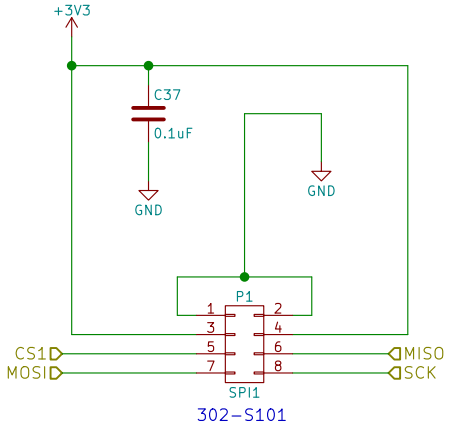
Sheet: /PowerSupply/
File: PowerSupply.sch

Title: POWER SUPPLY

Size: A3	Date: 2017-03-04	**Rev: B**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 3/12



Sheet: /Impresora/		
File: Impresora.sch		
Title: PRINTERS		
Size: A4	Date: 2017-03-04	**Rev: B**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 4/12

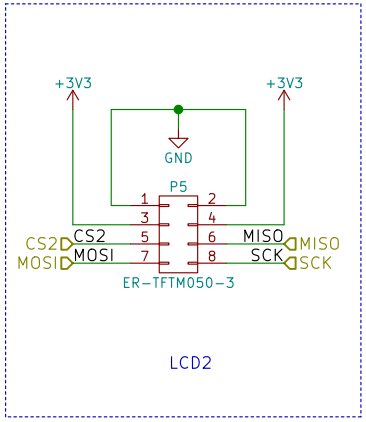


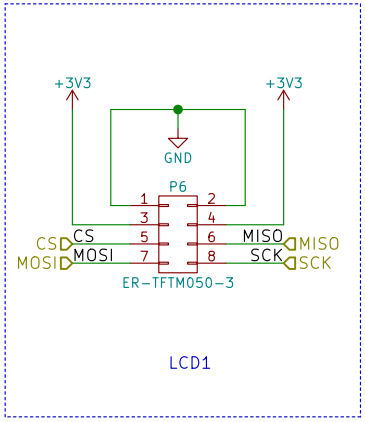
INSEPET LTDA

Sheet: /SPI/
File: SPI.sch

Title: SPI PORT

Size: A4	Date: 2017-03-04	**Rev: C**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 5/12





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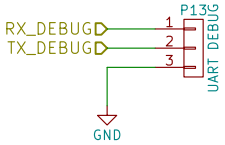
Sheet: /LCD/
File: LCD.sch

Title: LCD

Size: A4	Date: 2017-03-04	**Rev: B**
KiCad E.D.A.	kicad 4.0.6-e0-634953ubuntu16.04.1	Id: 6/12



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Sheet: /UART_DEBUG/
File: UART_DEBUG.sch

Title: UART DEBUG PORT

Size: A4	Date: 2017-03-04	**Rev: B**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 7/12

JUMPER 2
Ajustar fuente de corriente a 45mA por medio de RV1
+12V
jumper
P14
C17
22uF
C19
0.1uF
U3
LM317_SOT223
10 OHM
RV1
68WR10LF
R13
22
GNDA
+3.3VP
C22
0.47uF
R14
100
R15
1.5K
TP2
TX_ACTIVE
TX_SURTIDOR
U2B
74HC14
R11
15K
C20
560pF
Q1
MMBTA13
U4
CNY17-1
47.5K
R20
R22
150K
1N6263
D4
Q3
MMBTA2222A
Q5
MMBTA2222A
Q7
MMBTA2222A
150
R24
1K
R26
68.1
R28
C25
0.47uF
C27
33nF
1.5K
R32
221
R33
100K
R34
MMBT2907A
Q9
1.5K
R38
1K
R36
C28
1nF
U6
CNY17-1
U2E
74HC14
P2
SURTIDOR
RX_SURTIDOR
TP3
RX_ACTIVE
R9
1.5K
Q11
MMBT2222A
22K
R10
U2F
74HC14
D8
RX_ACTIVE
3.3K
R41
JUMPER 1
Ground jumper
P15
C30
0.1uF
U2D
74HC14
U2A
74HC14
U2C
74HC14
D2
TX_ACTIVE
3.3K
R18
ACTIVE CURRENT LOOP

U8A
74HC14
C18
0.1uF
U8D
74HC14
TP1
TX_PASSIVE
TX_PC
U8B
74HC14
R12
15K
C21
560pF
Q2
MMBTA13
U5
CNY17-1
47.5K
R21
R23
150K
1N6263
D5
Q4
MMBTA2222A
Q6
MMBTA2222A
Q8
MMBTA2222A
150
R25
1K
R27
68.1
R29
C24
0.47uF
C26
33nF
1.5K
R30
221
R31
100K
R35
MMBT2907A
Q10
1.5K
R40
1K
R39
C29
1nF
U7
CNY17-1
1N4148
D6
D7
68.1
R37
Conexion Invertida
INVERT
U8E
74HC14
P3
PC
RX_PCD
RX_PC
TP4
RX_PASSIVE
R48
1.5K
Q12
MMBT2222A
22K
R47
U8F
74HC14
D9
RX_PASSIVE
3.3K
R42
U8C
74HC14
D3
TX_PASSIVE
3.3K
R19
PASIVE CURRENT LOOP

GND
GNDA
+3.3VP

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Sheet: /CurrentLoop/
File: CurrentLoop.sch

Title: CURRENT LOOP

Size: User	Date: 2017-03-04	**Rev: B**
KiCad E.D.A.	kicad 4.0.6-e0-634953ubuntu16.04.1	Id: 8/12

DECOUPLING CAPS

+3.3VP
C8 0.1uF
C9 0.1uF
C10 0.1uF
C11 0.1uF
C12 0.1uF
C13 0.1uF
C14 0.1uF
C15 0.1uF
C16 1uF
GND

PROGRAMMING PORT

P20 — 302-S101
P21 — TC2050-IDC-NL
JTMS
JTCK
JTDO
JTDI
NRST
PROG
GND

LED

LED
1K R1
D1
GND

I2C

+3.3VP
4.7K R45
4.7K R46
P10
SCL
SDA
I2C
GND

BUZZER

+12V
BUZZER_A J5
1N4148 D16
Q14 2N2222A
1K R4
BUZZER
BUZZER_B J6
1N4148 D10
Q15 2N2222A
1K R3
BUZZER_B

RESET

+3.3VP
10K R2
NRST
100 R50
C7 0.1uF
RESET P19
GND

GPIO

+3V3
P22
CONN_02X08
PC7 PC6
PQ3 PH0
PH1 PH2
PH3 PA0
GND

JUMPER 3

RESET SEL
P27
WD_RST
RST
NRST

RESET SELECTION SOURCE:
1-2 WATCHDOG TIMER
3-2 JUMPER RESET

MICRO SD

Micro_SD_Card
CON1
DAT2
DAT3/CD
CMD
VDD
CLK
VSS
DAT0
DAT1
SHIELD
10K R51
10K R53
10K R52
C4 0.1uF
SSI2Fss
SSI2TX
SSI2Clk
SSI2RX
GND

WATCHDOG TIMER

+3.3VP
C63 0.1uF
TPS3825-33DBVT
NRST
WD_RST
WDI
U14
GND

SUPERCAP

+3.3VP
D11 DB2J31000L
C54 0.1uF
C51 0.1F
10 R54
10 R69
SUPERCAP
100mF 5V
KR-5R5H104-R
GND
VBAT

ETHERNET LEDS RESISTOR

LED_GREEN 330 R55
LED_ORANGE 330 R56

WAKE LOGIC

R60 4.87K 1%
BUZZER
VBAT 1M R59
+3.3VP
1K R57
10K R58
Q13 Q_NPN_BEC
WAKE LOGIC
GND

TM4C1294ENCPDTI3R — U12

+3.3VP
VDD ×15
VDDA
VREFA+
VBAT
PD0 SSI2RX
PD1 SSI2TX
PD2 SSI2Fss
PD3 SSI2Clk
PQ0
PQ1 LK1B
PQ2 LK2B
PE3 LK3B
PE2 LK4B
PE1 LK5B
PE0 LKCB
PK0 RX_IMPRESORA — Uart 4
PK1 TX_IMPRESORA — Uart 4
PK2 LED
PK3 BUZZER_B
PC7
PC6
PC5 TX_IMPRESORA2 — Uart 7
PC4 RX_IMPRESORA2 — Uart 7
PQ3
PH0
PH1
PH2
PH3
PA0
PA1
PA2 SCK_LCD — SSI0CLK
PA3
PA4 MOSI_LCD — SSI0TX — MOSI
PA5 MISO_LCD — SSI0RX — MISO
PA6 FSS_LCD1
PA7 FSS_LCD2
PF0 FSS_PH1
PF1
PF2
PF3
PF4
PG0
PG1
EPHYRX_N
EPHYRX_P
EN0RXIN
EN0RXIP
EPHYTX_N
EPHYTX_P
EN0TXON
EN0TXOP
RBIAS
PK7
PK6
PK5
PK4
WAKE
GND ×8
GNDA
VDDC
VDDC
PD7 LK1A
PD6 RESET_WIFI
PD5 TX_WIFI/GSM — Uart 2
PD4 RX_WIFI/GSM — Uart 2
PE5 LK2A
PE4 LK3A
PB4 LK4A
PB5 LK5A
PP1 TX_PC — Uart 6
PP0 RX_PC — Uart 6
PJ1 TX_SURTIDOR — Uart 3
PJ0 RX_SURTIDOR — Uart 3
PN5 LKCA
PN4 KIN0_B
PN3 KIN1_B
PN2 KIN2_B
PN1 KIN3_B
PN0 KIN4_B
PP5 KOUT0_B
PP4 KOUT1_B
PP3 KOUT2_B
PP2 KOUT3_B
PQ4 KOUT4_B
PC0/TCK/SWCLK JTCK
PC1/TMS/SWDIO JTMS
PC2/TDI JTDI
PC3/TDO/SWO JTDO
PB1 TX_DEBUG — Uart 1
PB0 RX_DEBUG — Uart 1
PL6
PL7
PB3 SDA
PB2 SCL
OSC1
OSC0
PL5
PL4 KIN0_A
PL3 KIN1_A
PL2 KIN2_A
PL1 KIN3_A
PL0 KIN4_A
PM0 KOUT0_A
PM1 KOUT1_A
PM2 KOUT2_A
PM3 KOUT3_A
PM4 KOUT4_A
PM5
PM6
PM7 WDI
RST
XOSC1
XOSC0
HIB

RTC

Y1 32.768KHz
C56 12pF
C57 12pF
GND

TP5 VDCC

C1 0.1uF
C2 1uF
C3 2.2uF
GND

2K R61
25MHz
Y2
C5 12pF
C6 12pF
GND

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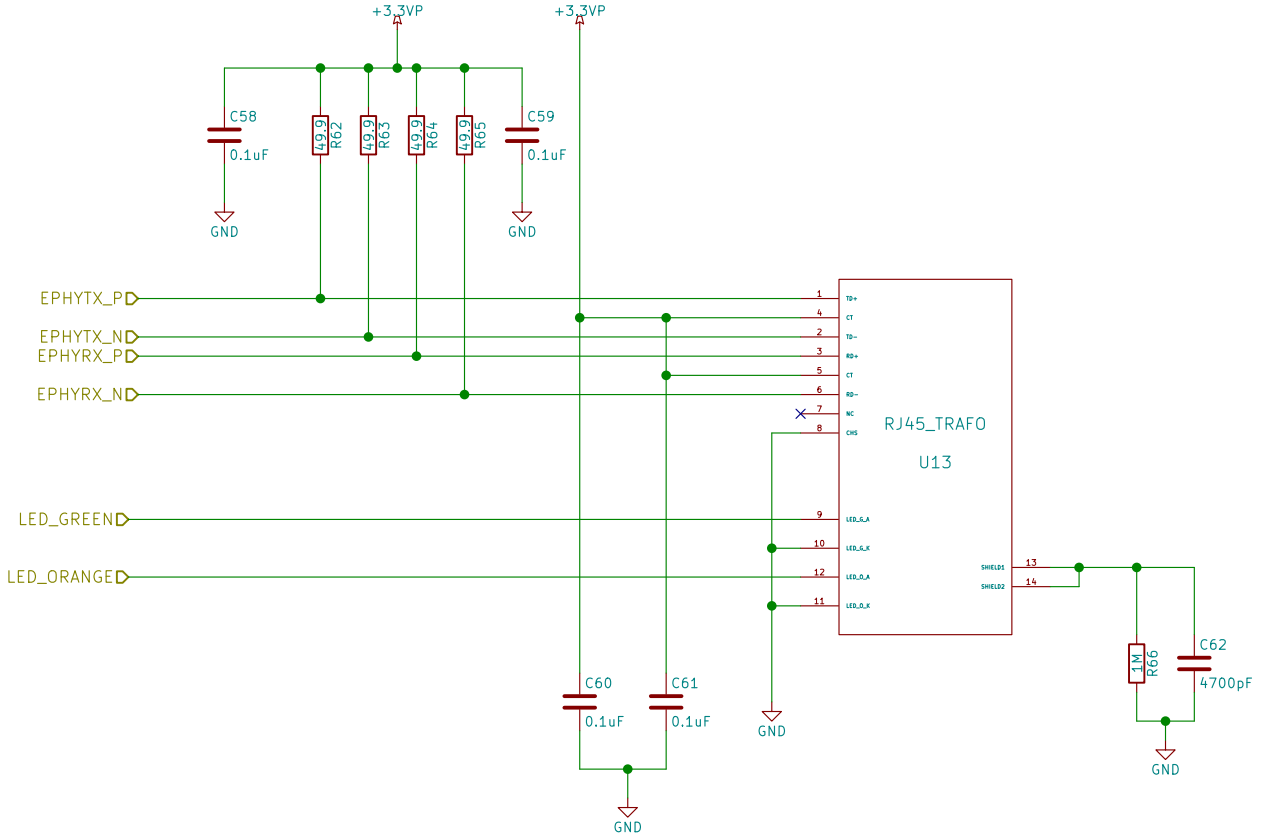
Sheet: /CPU/	
File: CPU.sch	
Title: CPU TEXAS TM4C129ENCPDT	
Size: A3	Date: 2017-03-03
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1	**Rev: B**
	Id: 9/12



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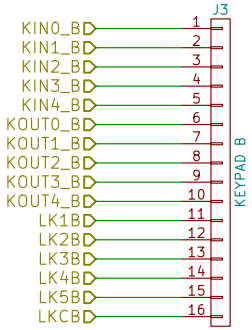
Sheet: /ETHERNET/ File: ETHERNET.sch		
Title: ETHERNET		
Size: A4	Date: 2017-03-04	**Rev: B**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 10/12



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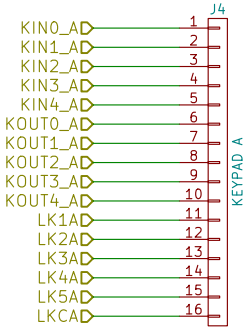
Sheet: /KEYPAD_B/
File: KEYPAD_B.sch

Title: KEYPAD B

Size: A4	Date: 2017-05-19	**Rev: C**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 11/12



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Sheet: /KEYPAD_A/
File: KEYPAD_A.sch

Title: KEYPAD SIDE A

Size: A4	Date: 2017-05-19	**Rev: C**
KiCad E.D.A. kicad 4.0.6-e0-634953ubuntu16.04.1		Id: 12/12