

click on mouse pointer arrow on top of right toolbar
and double-click on sheet to open

Sheet: power	Sheet: usb	Sheet: blinkey	Sheet: ram	Sheet: sdcard
File: power.sch	File: usb.sch	File: blinkey.sch	File: ram.sch	File: sdcard.sch
Sheet: gpio	Sheet: gpd1	Sheet: analog	Sheet: wifi	Sheet: flash
File: gpio.sch	File: gpd1.sch	File: analog.sch	File: wifi.sch	File: flash.sch

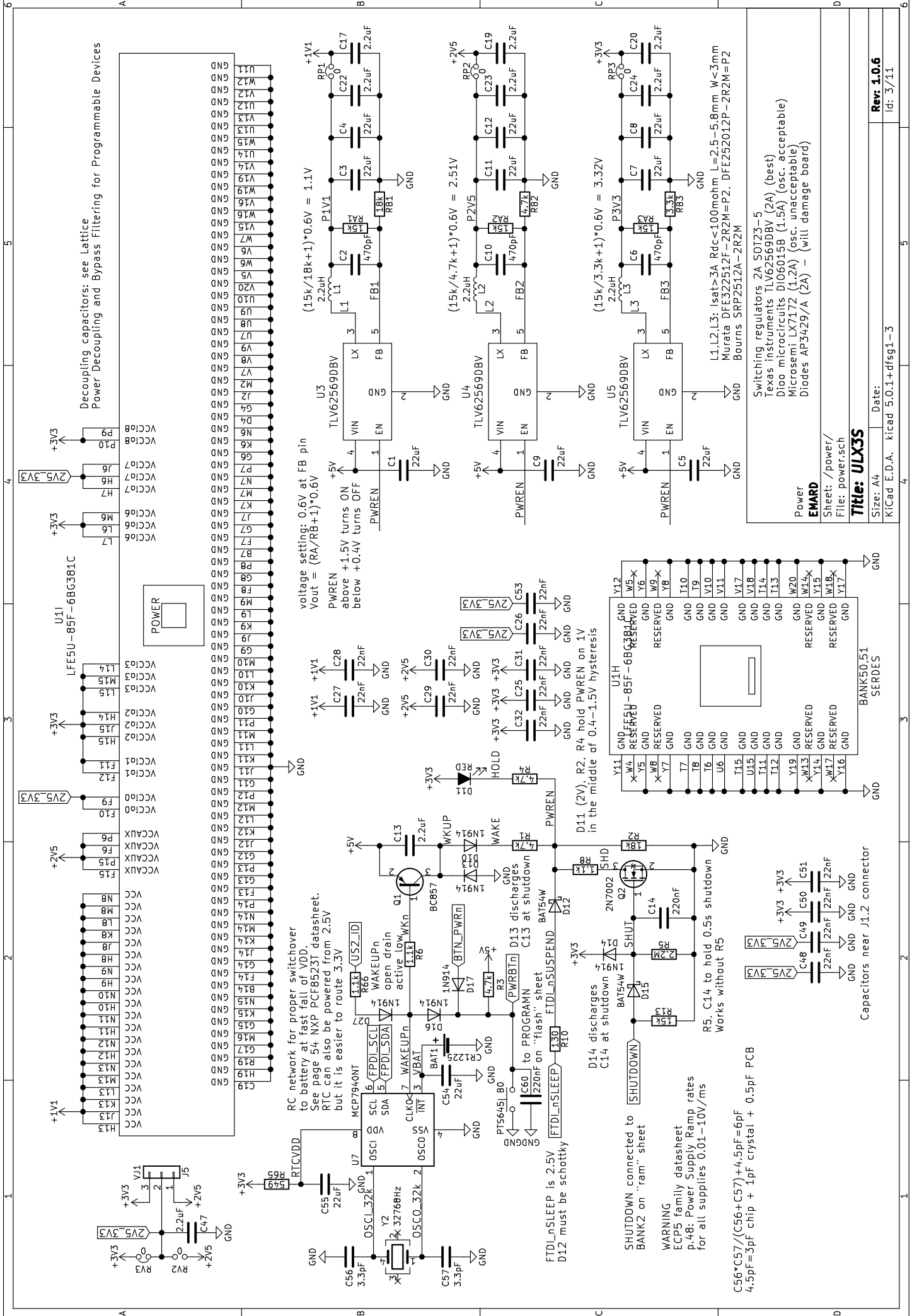
Root sheet
EMARD

Sheet: /
File: ulx3s.sch

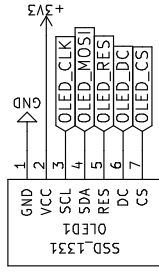
Title: ULX3S

Size: A4	Date:
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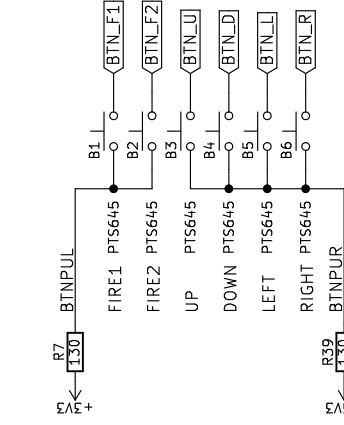
KiCad E.D.A. kicad 5.0.1+dfsg1-3



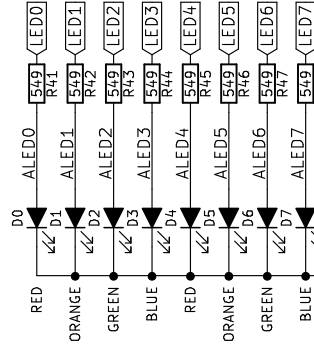
SSD1306 B/W or SSD1331 COLOR
compatible OLED 0.96" or 1.3" PCB
14x14 units
1 unit = 2.54 mm



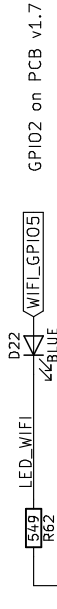
OLED connected to
BANK6 on "usb" sheet



BTN_R,U to BANK2,3 on "ram" sheet
BTN_F1,F2,D,L to BANK8 on "flash" sheet



LEDs connected to
BANK7 on "qpio" sheet

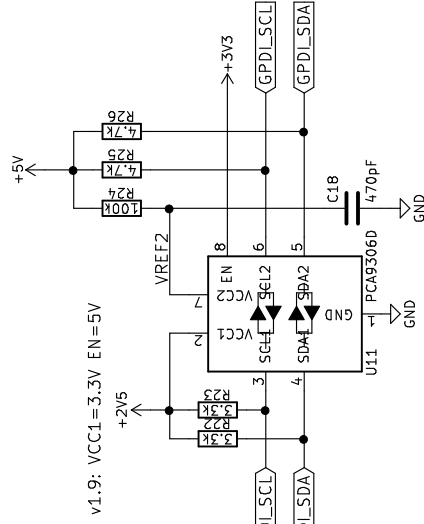
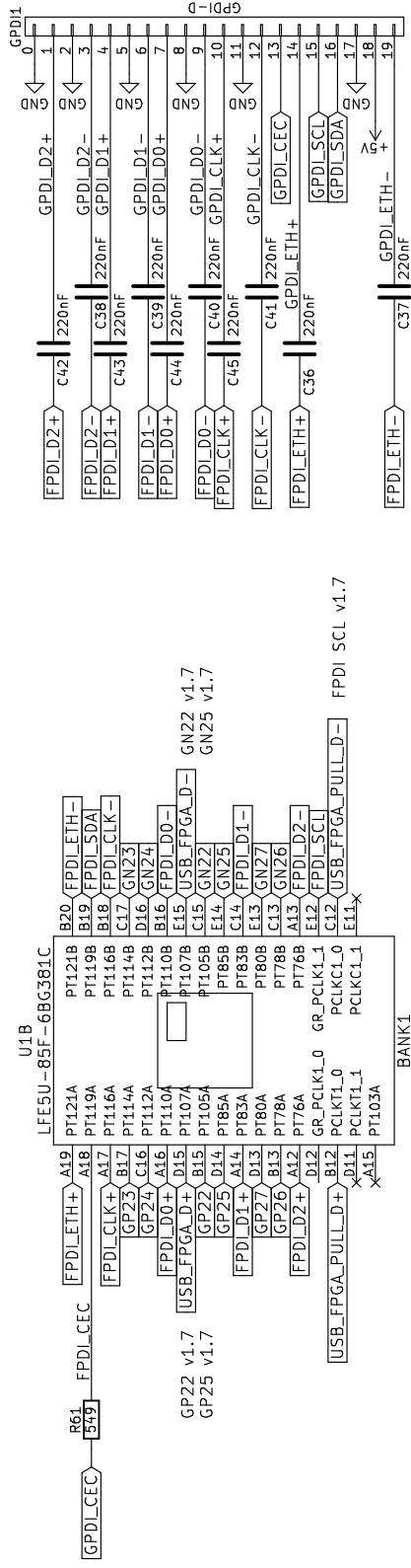
Buttons, LEDs, OLED display
EMARD

Sheet: /blinkey/
File: blinkey.sch

Title: ULX3S

Rev: 1.0.0

Id: 4/11



PCB v1.8.1 and higher accept FCI 10029449-111RLF
www.amphenol-icc.com
mouse PN: 649-10029449-111RLF
<https://portal.fciconnect.com/Comergent/fci/drawing/10029449.pdf>

PCB v1.7 and v1.8 accept
mouse PN: 538-47451-1001 (Molex)
https://www.molex.com/pdm_docs/sd/471511001_sd.pdf
mouse PN: 710-685119134923 (Wurth)
<https://catalog.wur-online.com/em/datasheet/685119134923.pdf>

Digital Video and Ethernet
General Purpose Differential Interface

EMARD

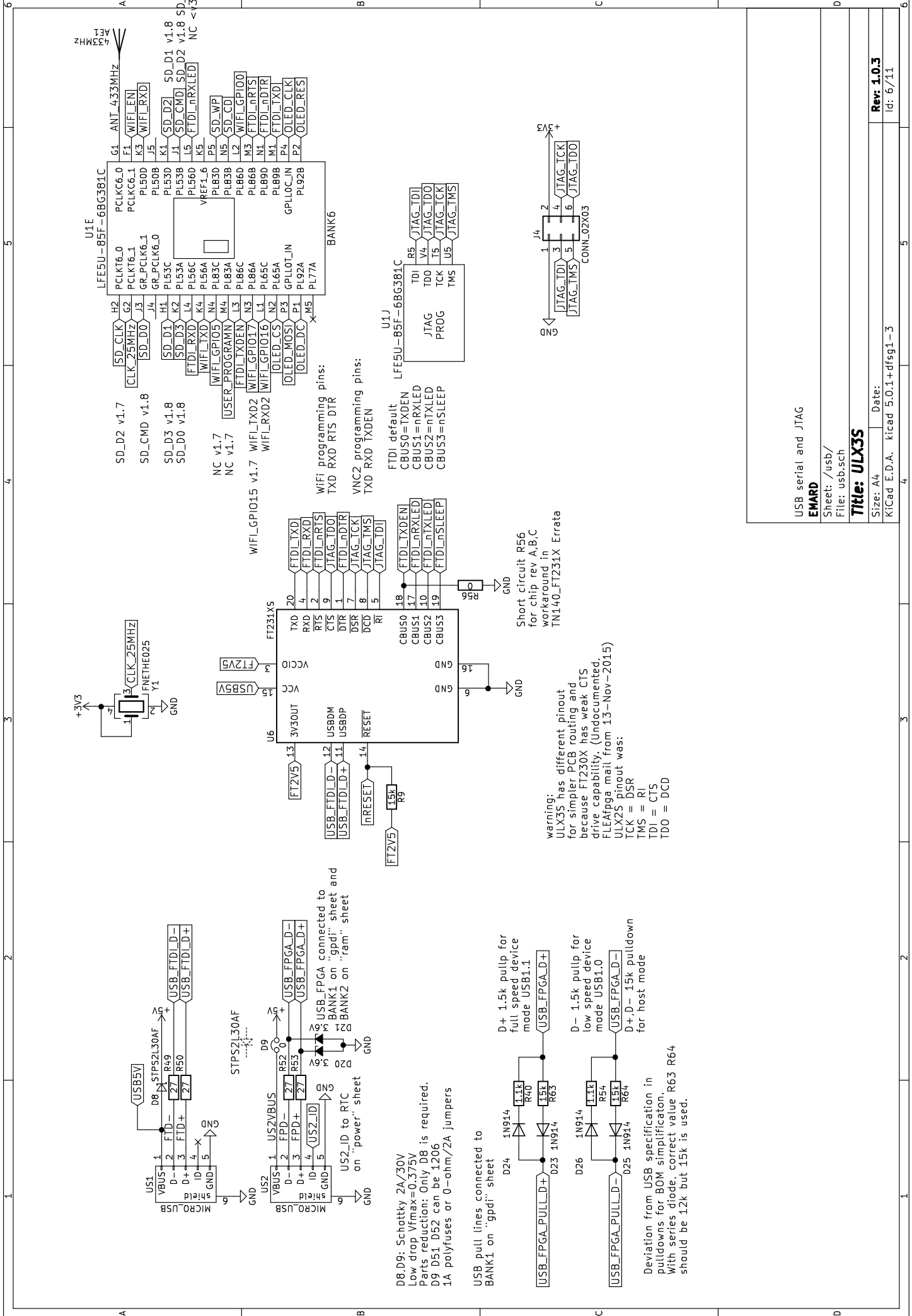
Sheet: /gpdi/
File: gpdi.sch

Title: ULX3S

Size: A4	Date:	Rev: 1.0.2
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KiCad E.D.A. kicad 5.0.1+dfsg1-3	Id: 5/11
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4	5
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USB serial and JTAG

EMARD

Sheet: /usb/
File: usb.sch

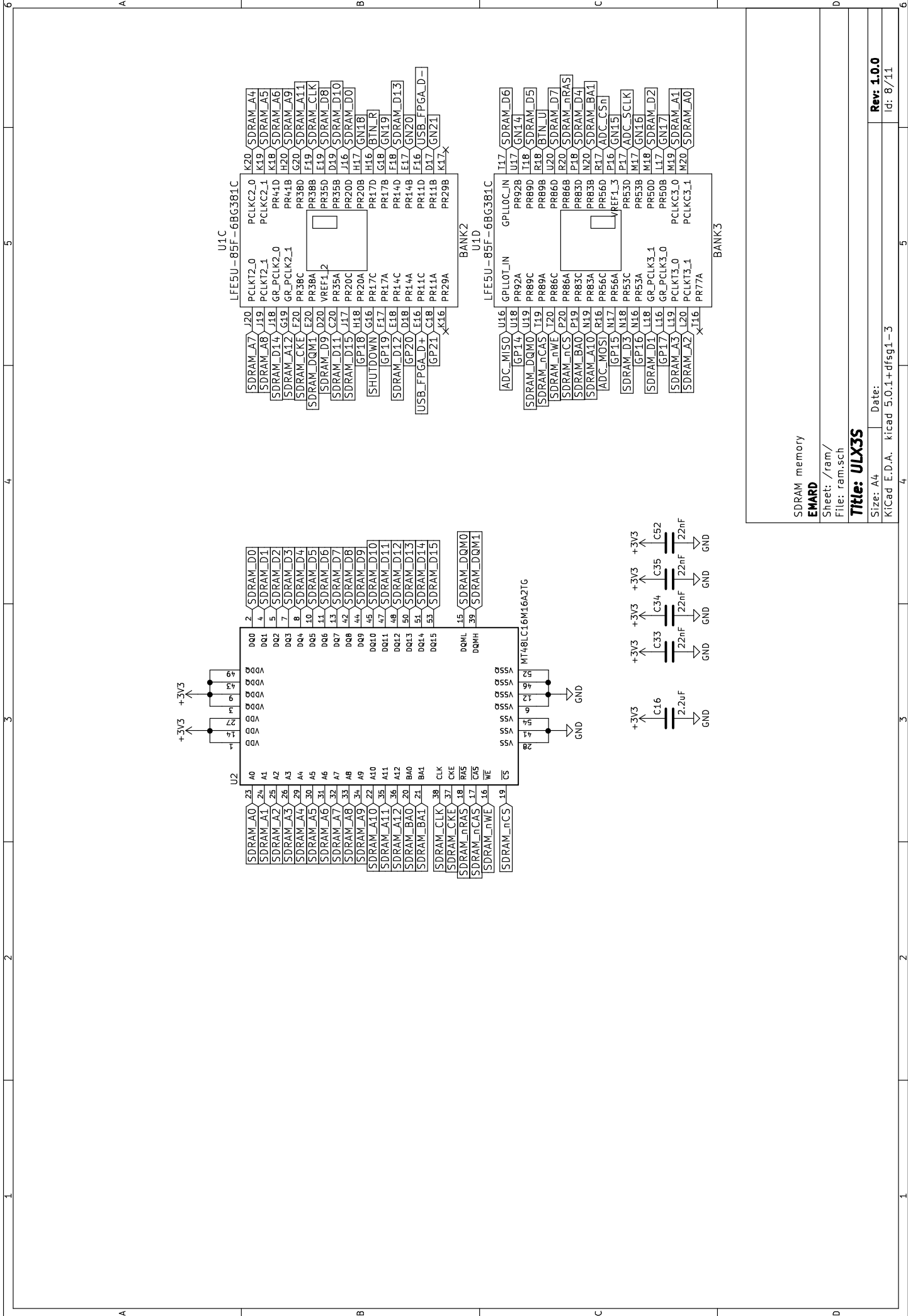
Title: ULX3S

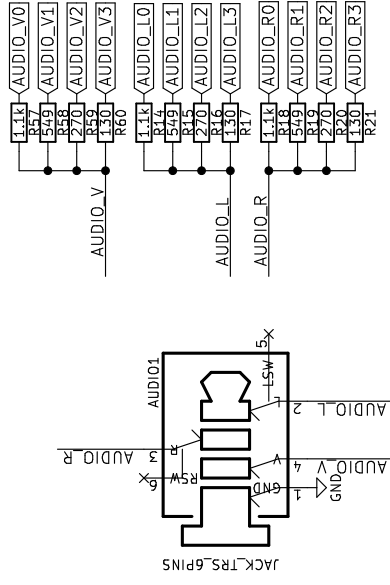
Size: A4 Date:

KiCad E.D.A. kicad 5.0.1+dfsg1-3

Rev: 1.0.3

Id: 6/11

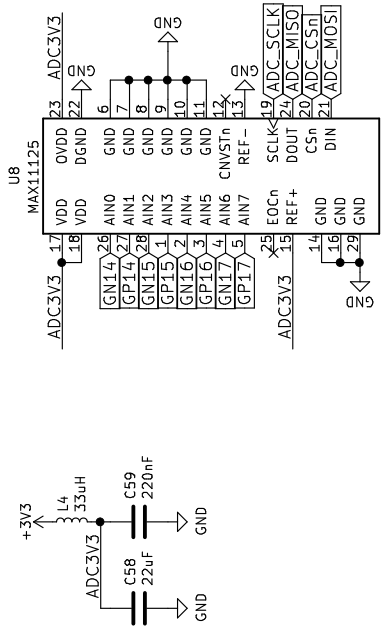




JACK pinout for SJ-43516-SMT-TR
<http://www.cui.com/product/resource/sj-4351x-smt-series.pdf>
 pin 1 – sleeve (GND)
 pin 2 – tip (left channel)
 pin 3 – ring1 (right channel)
 pin 4 – ring2 (video)
 pin 5 – tip switch
 pin 6 – ring1 switch

Audio connected to
BANK7 on "gpio" sheet

Output resistance: 75 ohm
Internal resistance of FPGA pin: 10 ohm
 $1/(1/(130+10)+1/(270+10)+1/(549+10)+1/(1100+10))=74.6$



ADC SPI connected to BANK3 of "ram" sheet

Analog audio and video	
EMARD	
Sheet: /analog/ File: analog.sch	
Title: ULX3S	
Size: A4	Date:
KiCad E.D.A. kicad 5.0.1	

