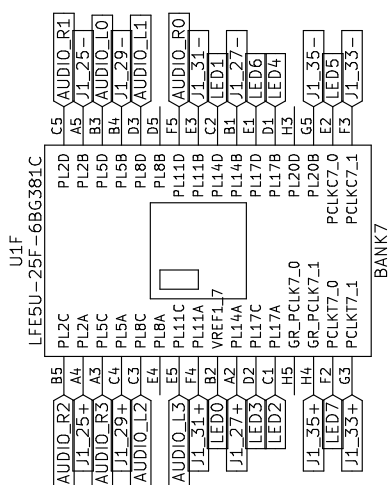
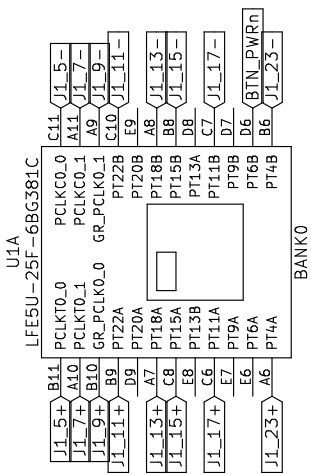
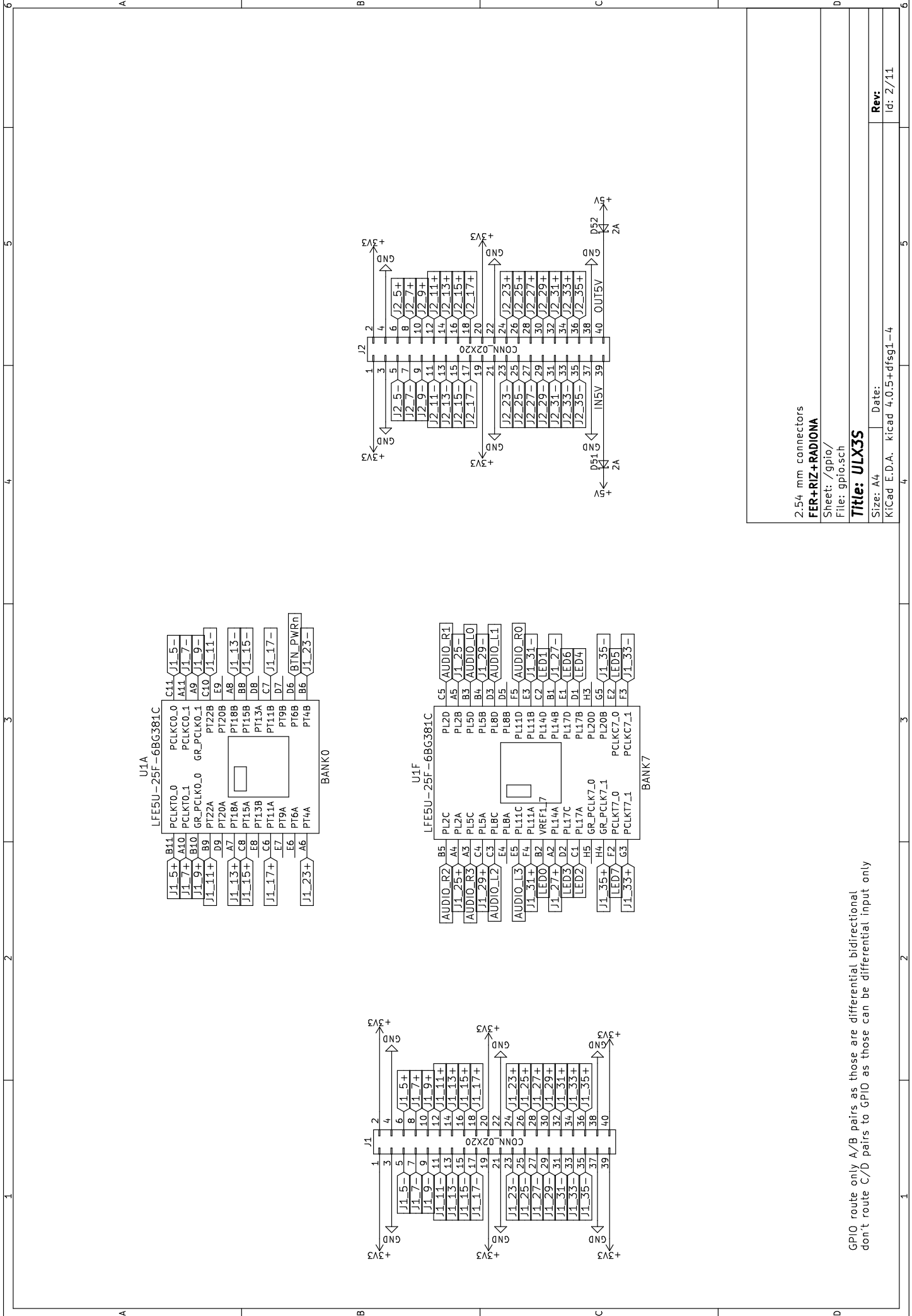
		
<p>click on mouse pointer arrow on top of right toolbar and double-click on sheet to open</p>		
Sheet: power	Sheet: usb	Sheet: blinky
File: power.sch	File: usb.sch	File: blinky.sch
Sheet: gpio	Sheet: gpdi	Sheet: analog
File: gpio.sch	File: gpdi.sch	File: analog.sch
Sheet: ram	Sheet: ram	Sheet: sdcard
File: ram.sch	File: ram.sch	File: sdcard.sch
Sheet: wifi	Sheet: wifi	Sheet: flash
File: wifi.sch	File: wifi.sch	File: flash.sch
Root sheet		
FER+RIZ+RADIONA		
Sheet: /		
File: ulx3s.sch		
Title: ULX3S		
Size: A4	Date:	Rev: 0.0.1
KiCad E.D.A. kicad 4.0.5+dfsg1-4		Id: 1/11



2.54 mm connectors
FER+RIZ+RADIONA

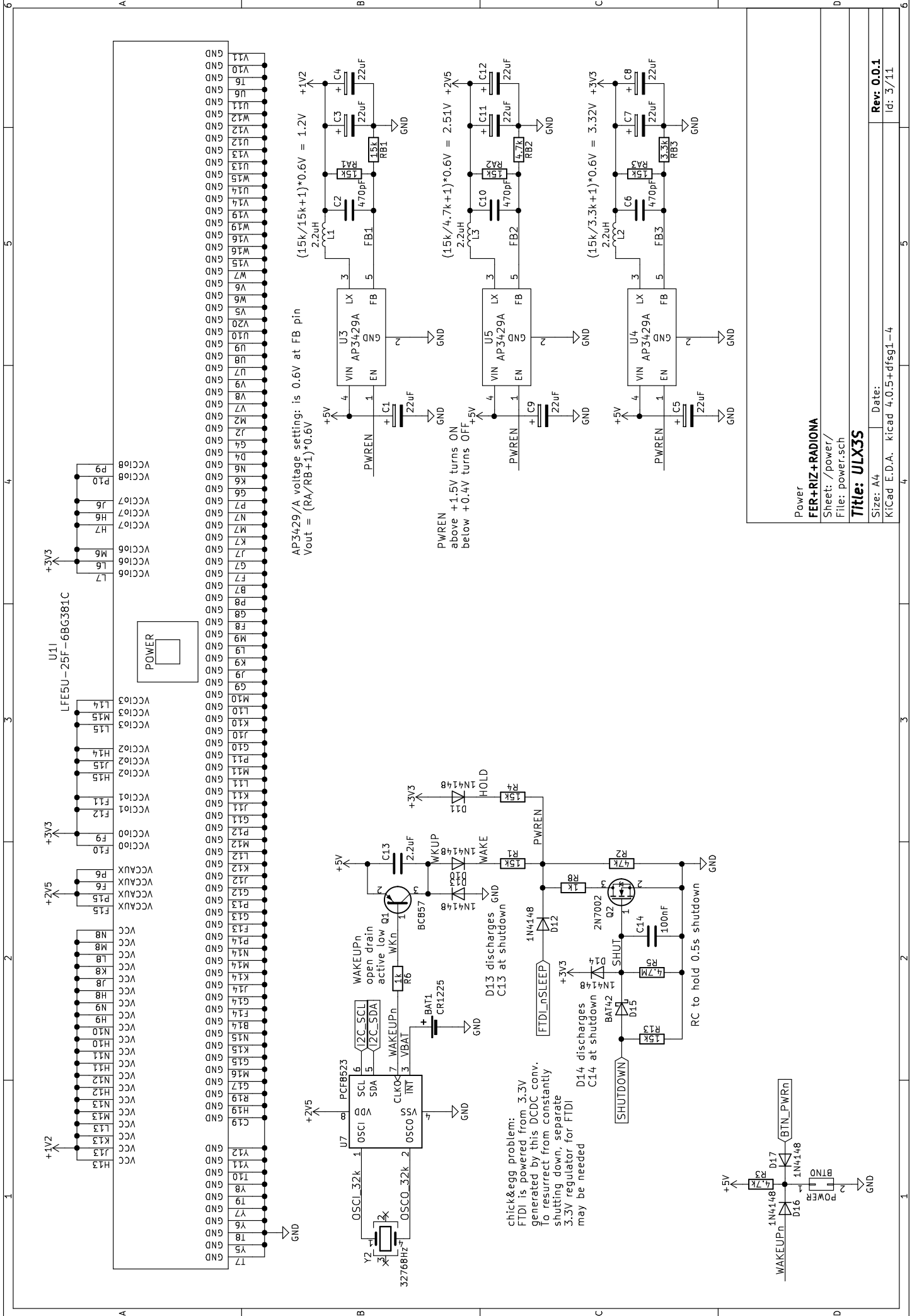
Sheet: /gpio/
File: gpio.sch

Title: ULX3S

Size: A4 Date:
KiCad E.D.A. kicad 4.0.5+dfsg1-4

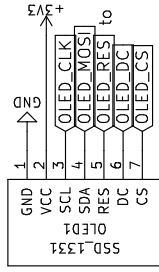
GPIO route only A/B pairs as those are differential, bidirectional
don't route C/D pairs to GPIO as those can be differential input only

Rev:
Id: 2/11

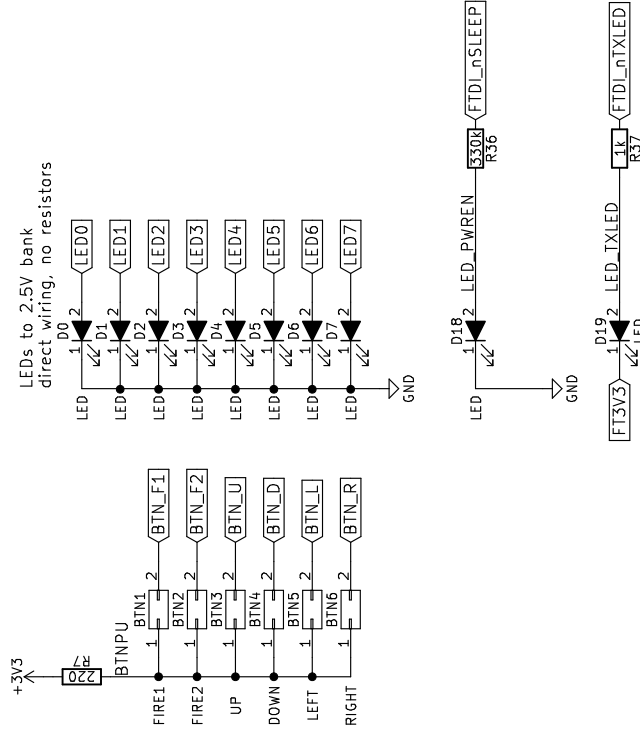


Power
FER+RIZ+RADIONA
 Sheet: /power/
 File: power.sch
Title: ULX3S
 Size: A4 Date:
 KiCad E.D.A. kicad 4.0.5+dfsg1-4

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



to global onboard reset?



LEDs to 2.5V bank
 direct wiring, no resistors

Buttons, LEDs, OLED display
FER+RIZ+RADIONA

Sheet: /blinky/
 File: blinky.sch

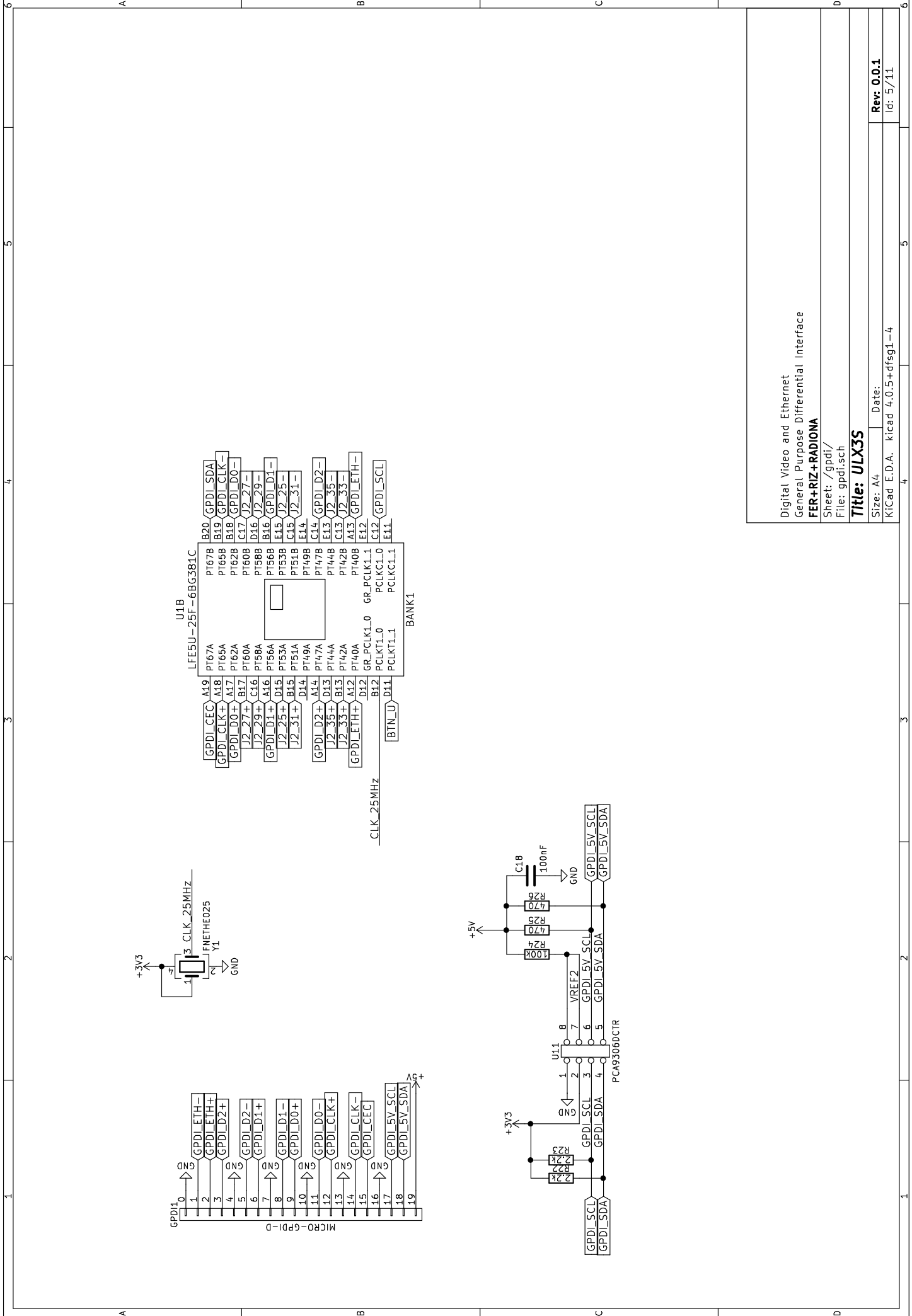
Title: ULX3S

Size: A4 Date:

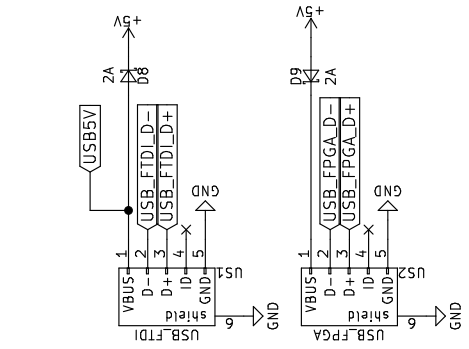
KiCad E.D.A. kicad 4.0.5+dfsg1-4

Rev: 0.0.1

Id: 4/11

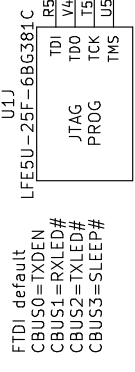
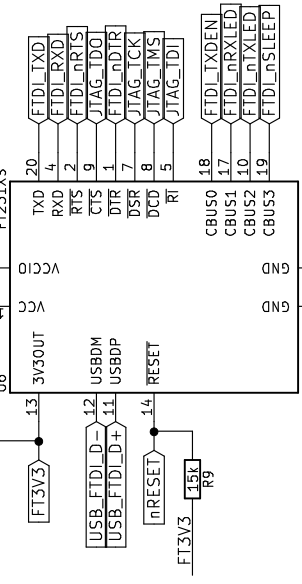
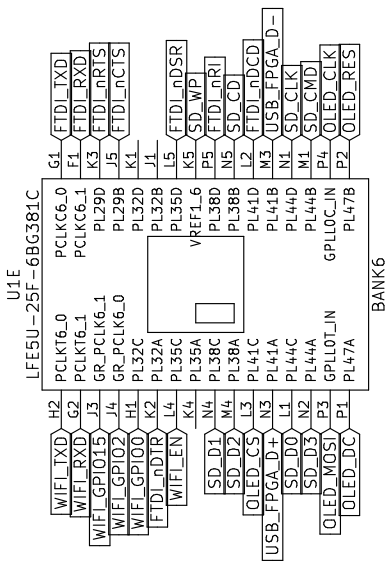


Digital Video and Ethernet
 General Purpose Differential Interface
FER+RIZ+RADIONA
 Sheet: /gpd1/
 File: gpd1.sch
Title: ULX3S
 Size: A4
 Date:
 Kicad E.D.A. kicad 4.0.5+dfsg1-4
Rev. 0.0.1
 Id: 5/11



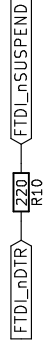
WiFi programming pins:
TXD RXD RTS DIR

VNC2 programming pins:
TXD RXD TXDEN

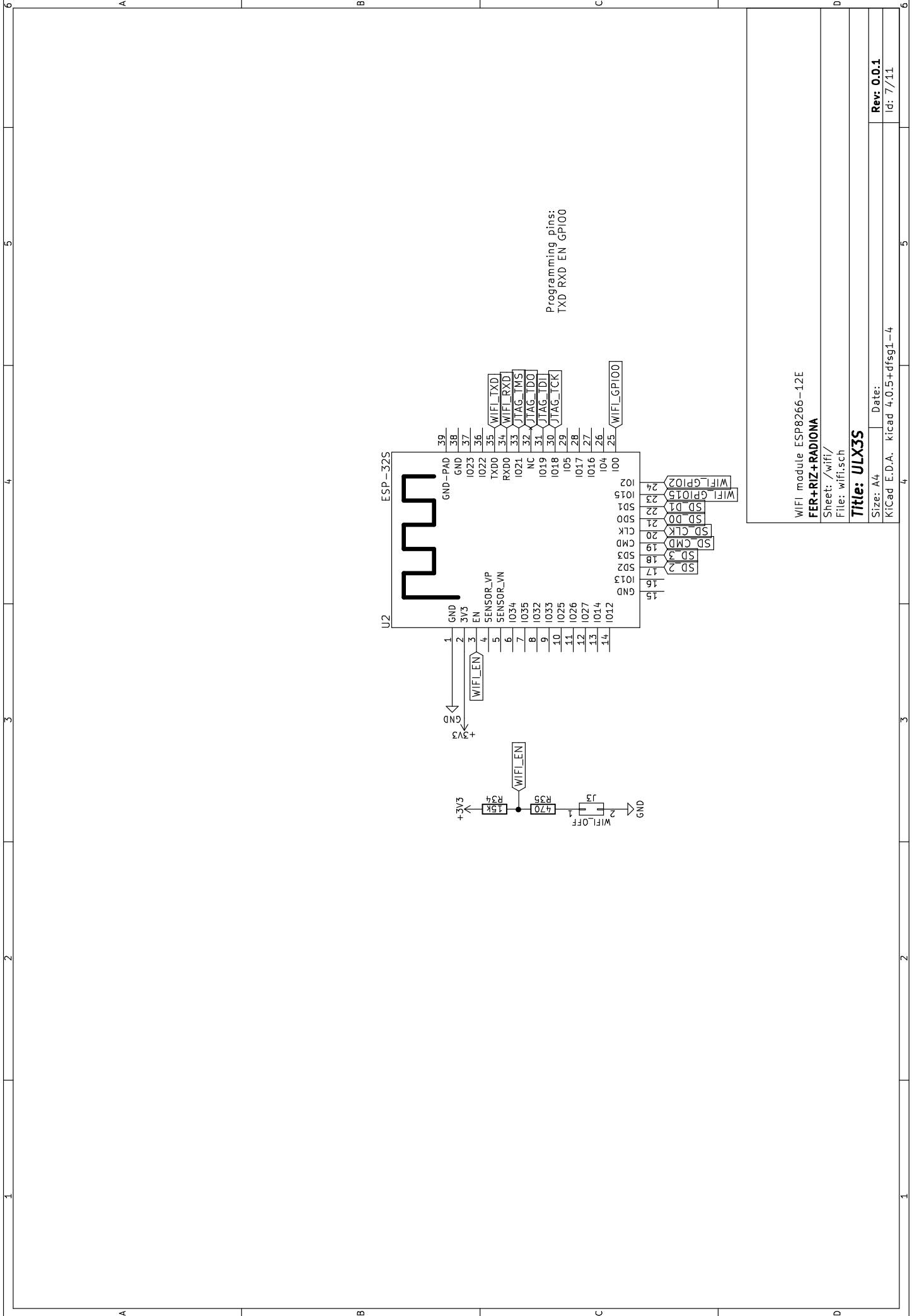


FTDI default
CBUS0=TXDEN
CBUS1=RXLED#
CBUS2=TXLED#
CBUS3=SLEEP#

ujprog pinmap
TCK = DSR
TMS = RI
TDI = CTS
TDO = DCD



Root sheet
FER+RIZ+RADIONA
Sheet: /usb/
File: usb.sch
Title: ULX3S
Size: A4 Date:
KiCad E.D.A. kicad 4.0.5+dfsg1-4
Rev: 0.0.1
Id: 6/11



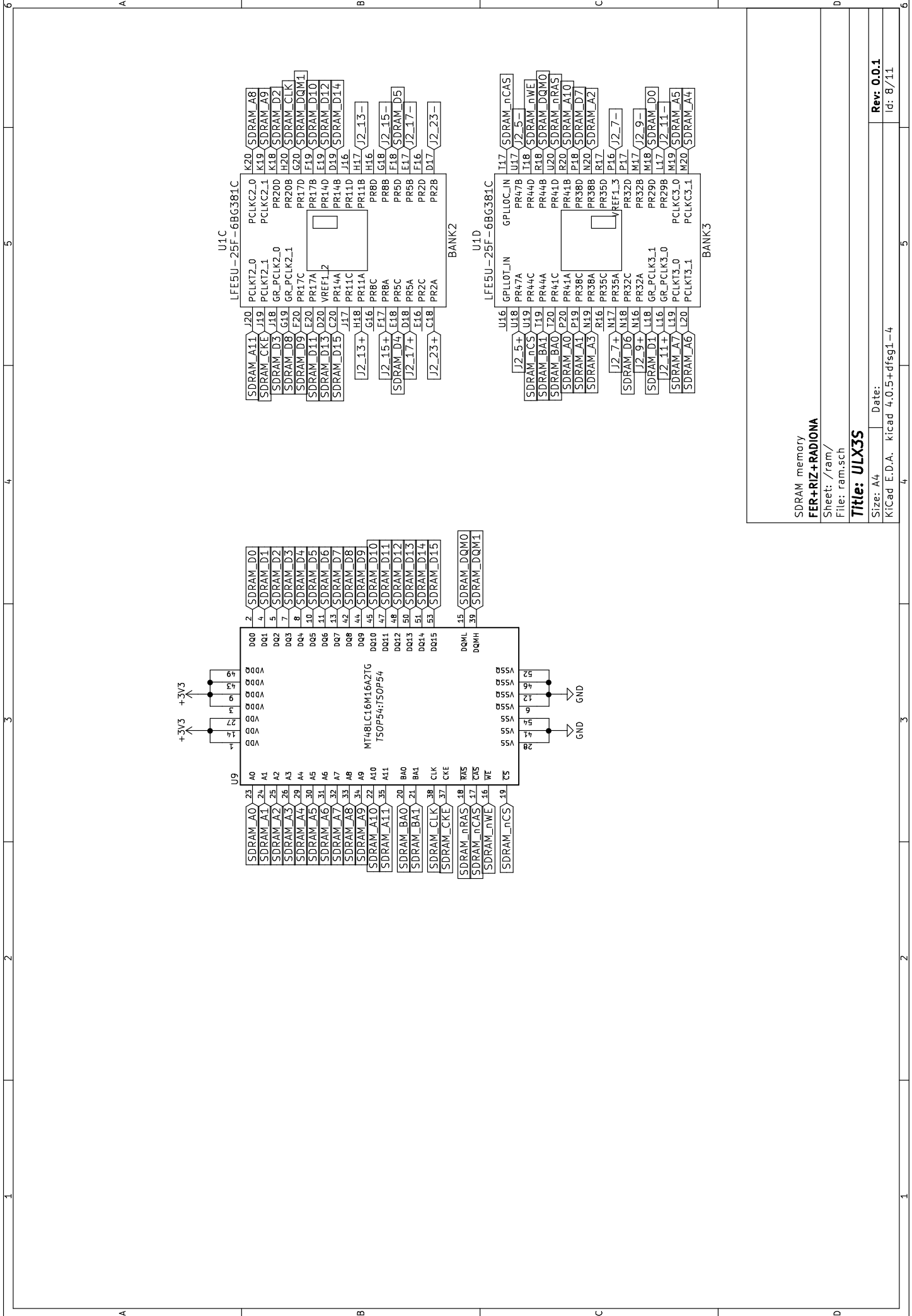
WIFI module ESP8266-12E
FER+RIZ+RADIONA

Sheet: /wifi/
 File: wifi.sch

Title: ULX3S

Size: A4 Date:
 KiCad E.D.A. kicad 4.0.5+dfsg1-4

Rev. 0.0.1
 Id: 7/11

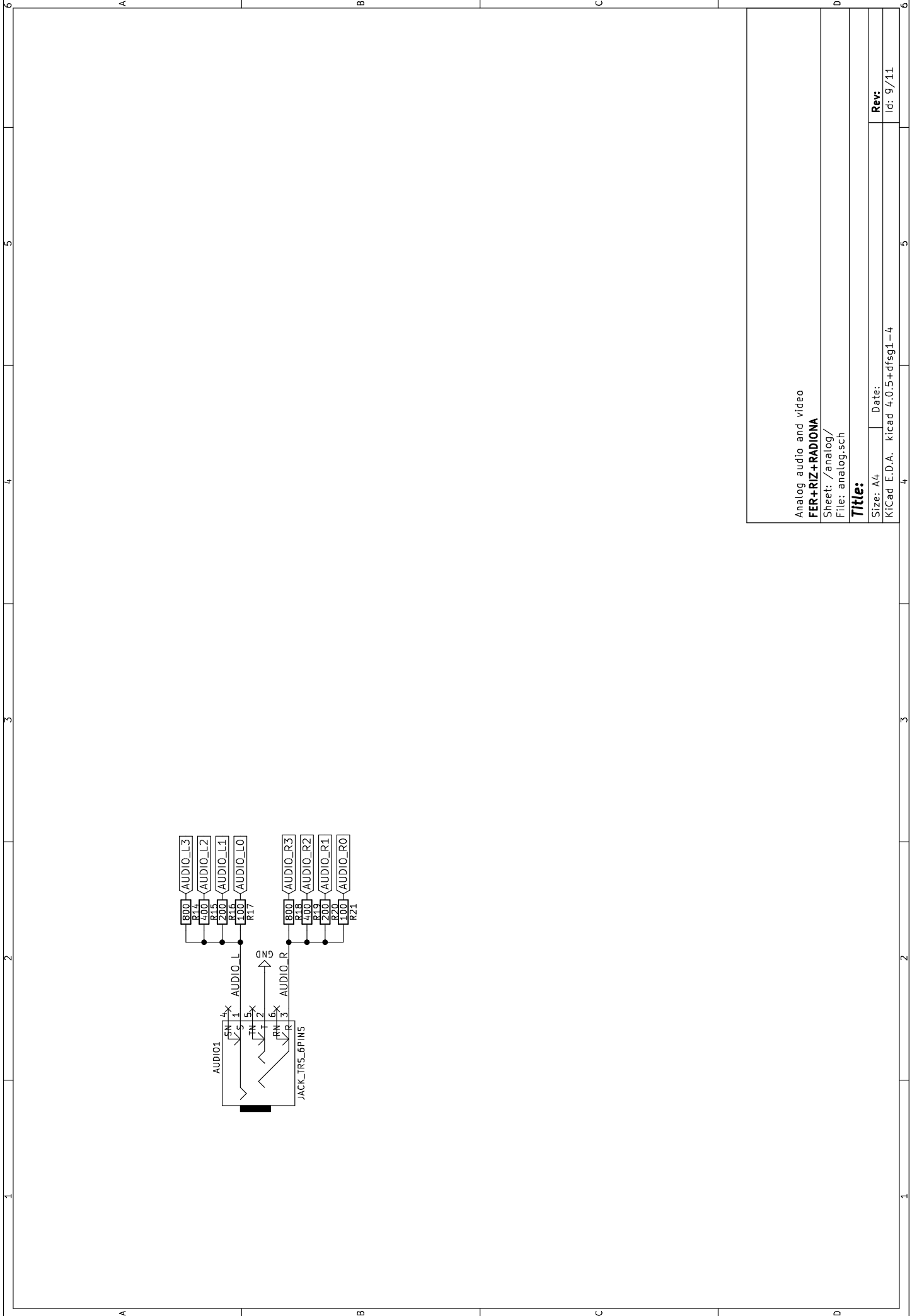


SDRAM memory
FER+RIZ+RADIONA
 Sheet: /ram/
 File: ram.sch

Title: ULX3S

Size: A4 Date:
 KiCad E.D.A. kicad 4.0.5+dfsg1-4

Rev. 0.0.1
 Id: B/11



Analog audio and video

FER+RIZ+RADIONA

Sheet: /analog/

File: analog.sch

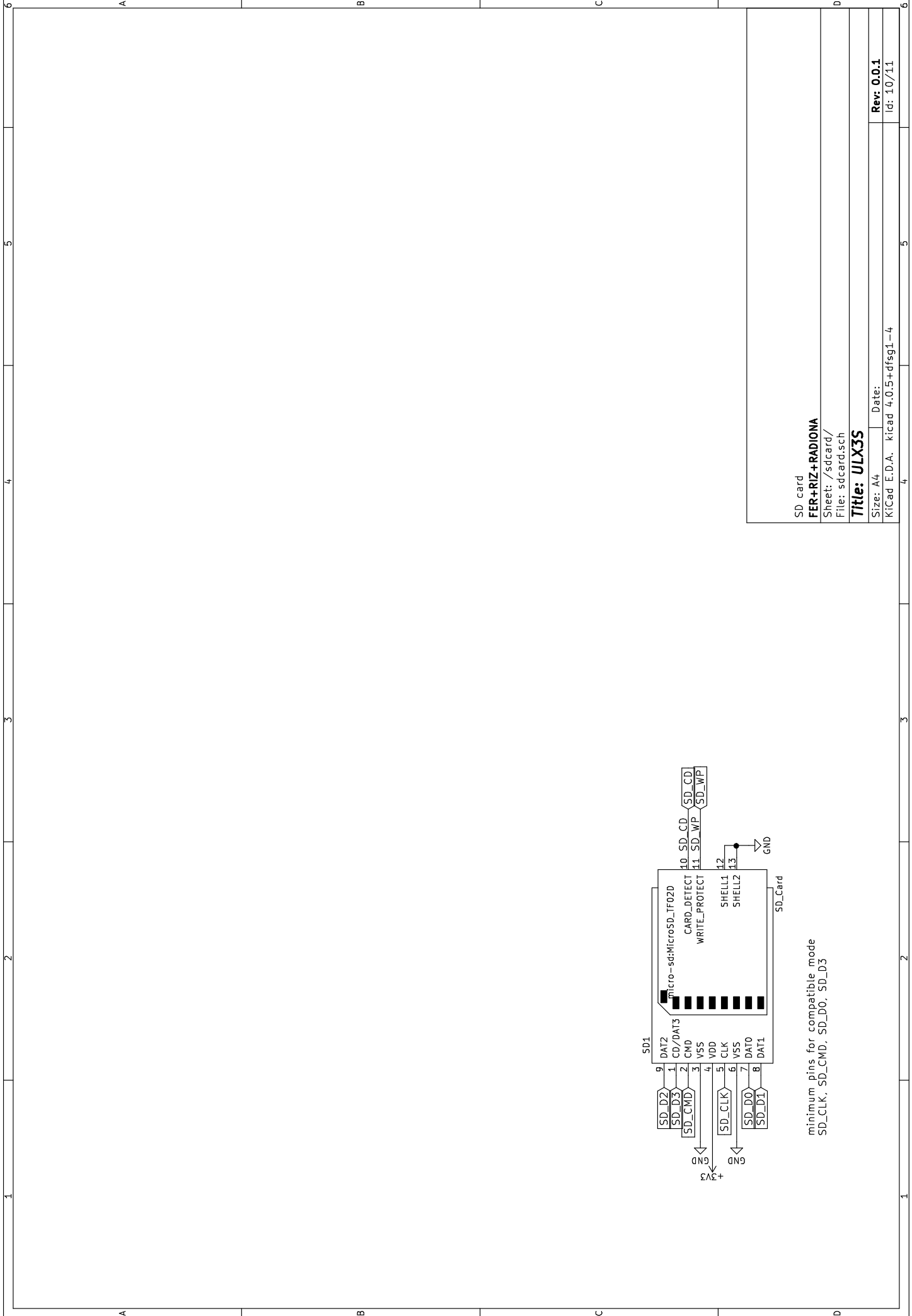
Title:

Size: A4 Date:

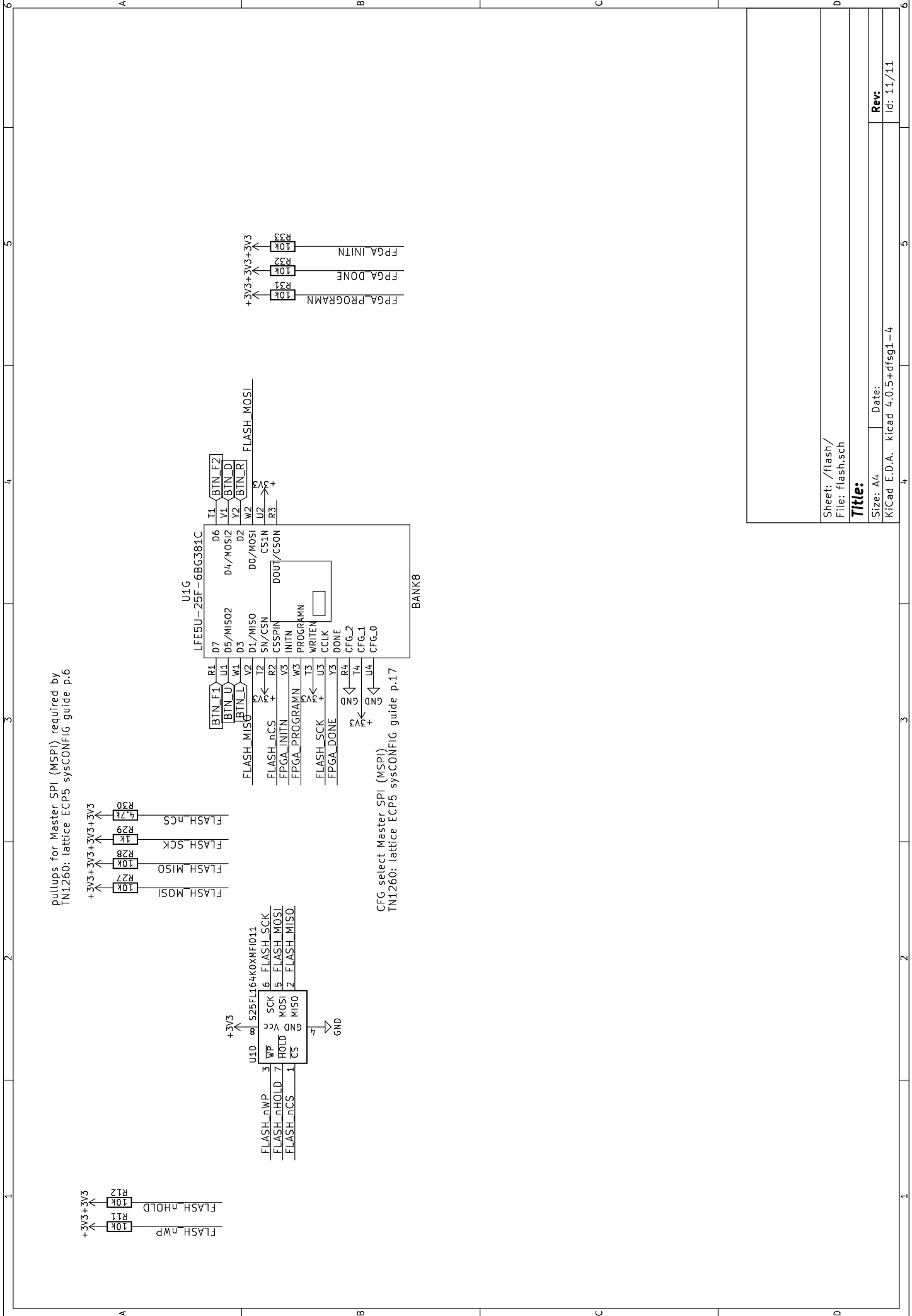
KiCad E.D.A. kicad 4.0.5+dfsg1-4

Rev:

Id: 9/11



SD card
FER+RIZ+RADIONA
 Sheet: /sdcard/
 File: sdcard.sch
Title: ULX3S
 Size: A4 Date:
 KiCad E.D.A. kicad 4.0.5+dfsg1-4
Rev: 0.0.1
 Id: 10/11



pullups for Master SPI (MSPi) required by TN1260: lattice ECP5 sysCONFIG guide p.6

CFG select Master SPI (MSPi) TN1260: lattice ECP5 sysCONFIG guide p.17

Sheet: /flash/
File: flash.sch
Title:
Size: A4 Date:
KICad E.D.A. kicad 4.0.5+dfsg1-4
Id: 11/11