

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

Sheet: power

File: power.sch
Sheet: gpio

Sheet: usb

File: usb.sch
Sheet: gpdi

Sheet: blinky

File: blinky.sch
Sheet: analog

Sheet: ram

File: ram.sch
Sheet: wifi

Sheet: serdes

File: serdes.sch
Sheet: flash

File: gpio.sch

File: gpdi.sch

File: analog.sch

File: wifi.sch

File: flash.sch

License: CERN-OHL-S v2
Root sheet
Intergalaktik d.o.o.



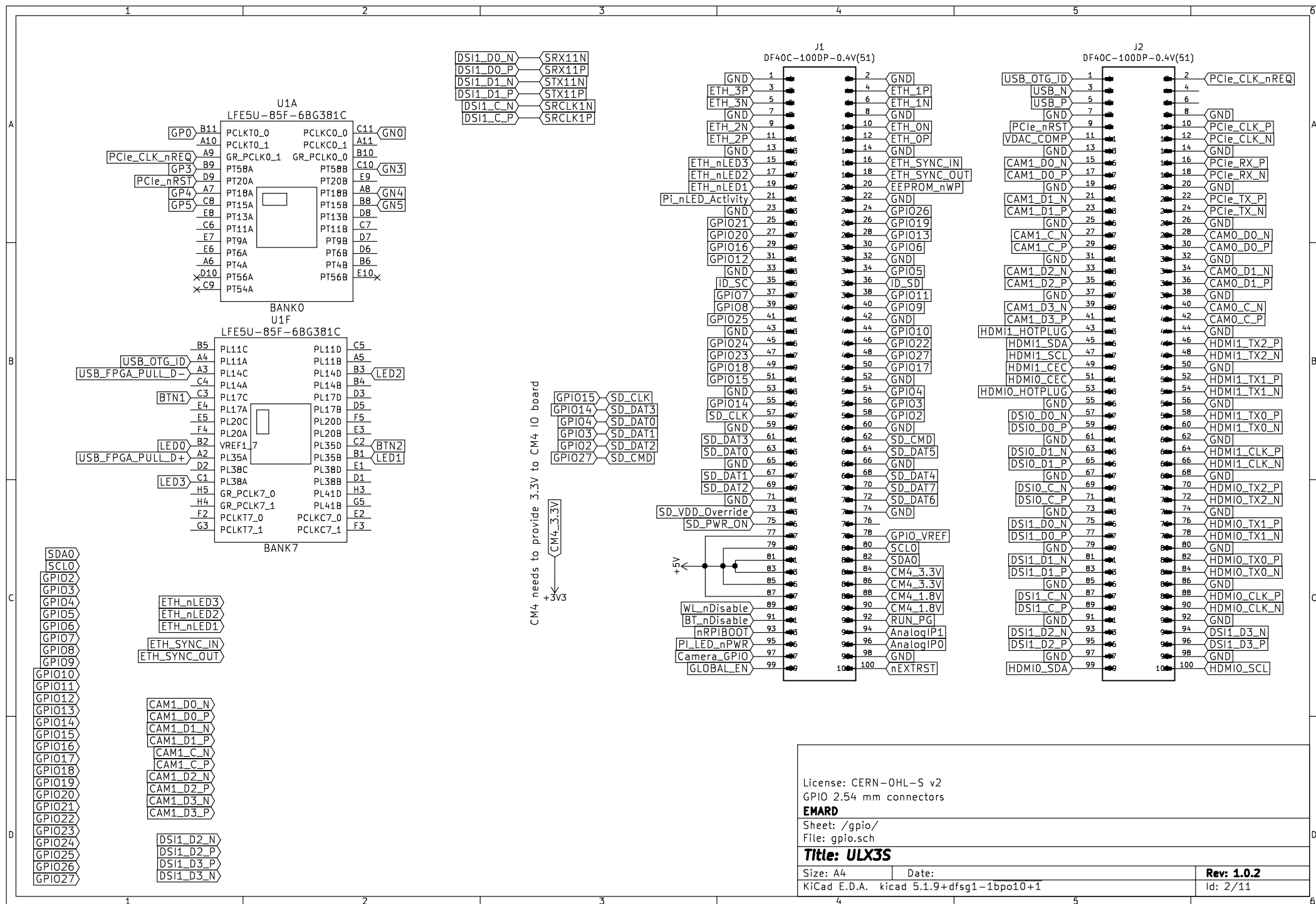
Sheet: /
File: ulx4m.sch

Title: ULX4M-LS

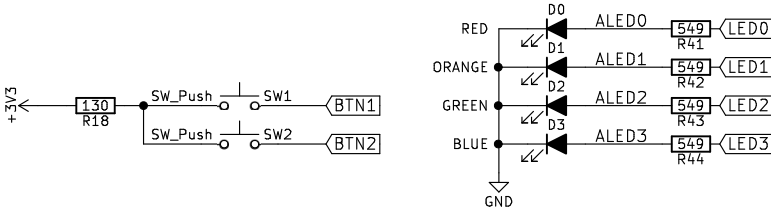
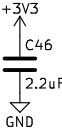
Size: A4
KiCad E.D.A. kicad 5.1.9+dfsg1-1bpo10+1

Date: 2021-11-05

Rev: 0.0.2
Id: 1/11



ST7789/SSD1331/SSD1351/SSD1306
compatible LCD/OLED 0.96/1.3/1.54" PCB
14x14 units
1 unit = 2.54 mm



License: CERN-OHL-S v2
Buttons, LEDs, OLED display

EMARD

Sheet: /blinky/
File: blinky.sch

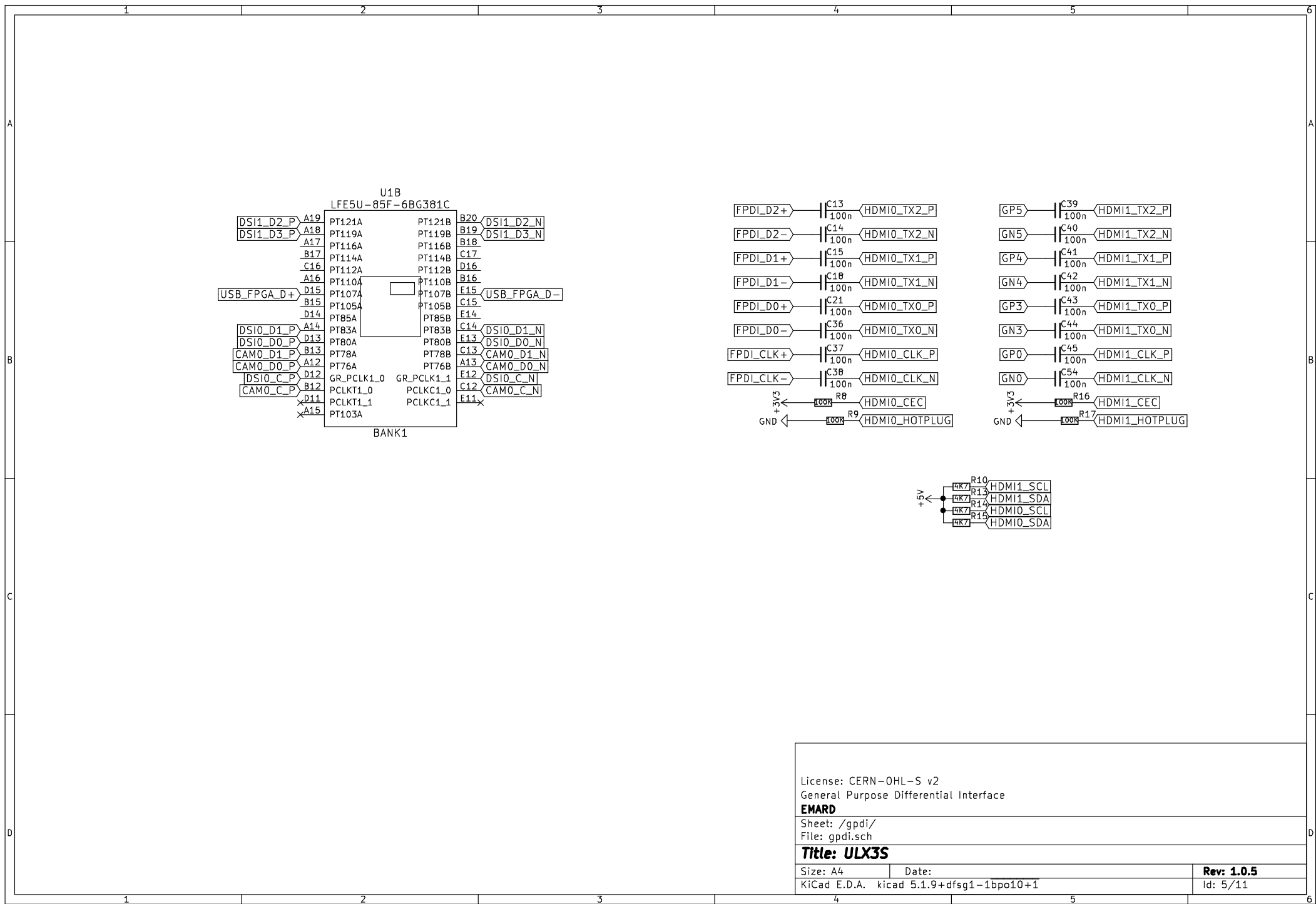
Title: ULX3S

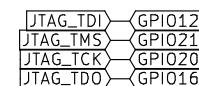
Size: A4
KiCad E.D.A. kicad 5.1.9+dfsg1-1bpo10+1

Date:

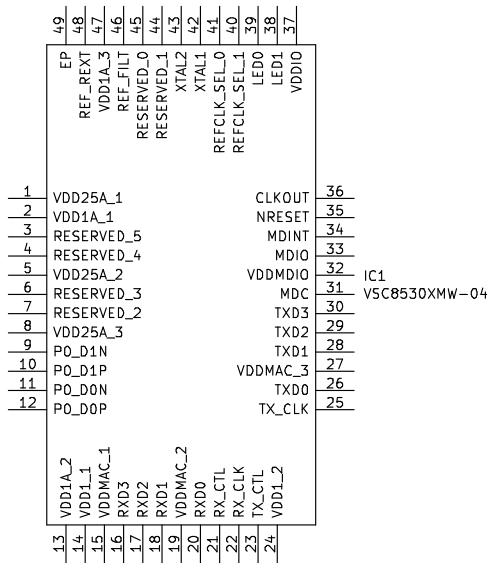
Rev: 1.0.3

Id: 4/11





Rev: 1.0.10
Id: 6/11



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WIFI module ESP32

EMARD

Sheet: /wifi/

File: wifi.sch

Title: ULX3S

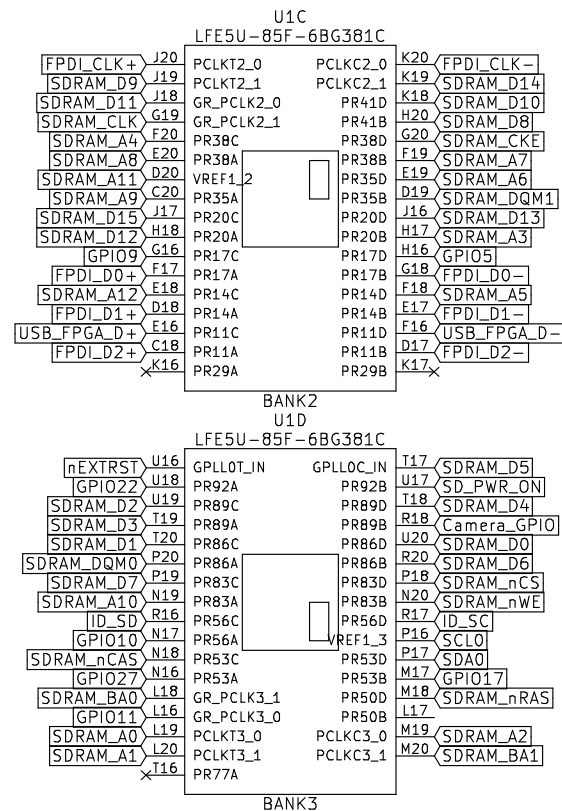
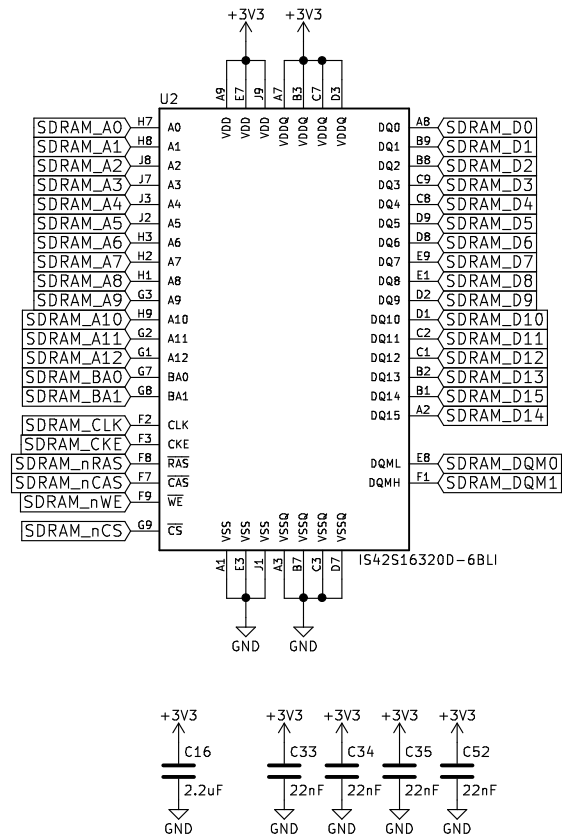
Size: A4

Date:

KiCad E.D.A. kicad 5.1.9+dfsg1-1bpo10+1

Rev: 1.0.9

Id: 7/11



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SDRAM memory

Intergalektik d.o.o.

Sheet: /ram/

File: ram.sch

Title: ULX4M

Size: A4 Date: 2021-11-08

KiCad E.D.A. kicad 5.1.9+dfsg1-1bpo10+1

Rev: 0.0.2

Id: 8/11

1	2	3	4	5	6
A					A
B					B
C					C
D					D
1	2	3	4	5	6

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Analog audio and video

EMARD

Sheet: /analog/
File: analog.sch

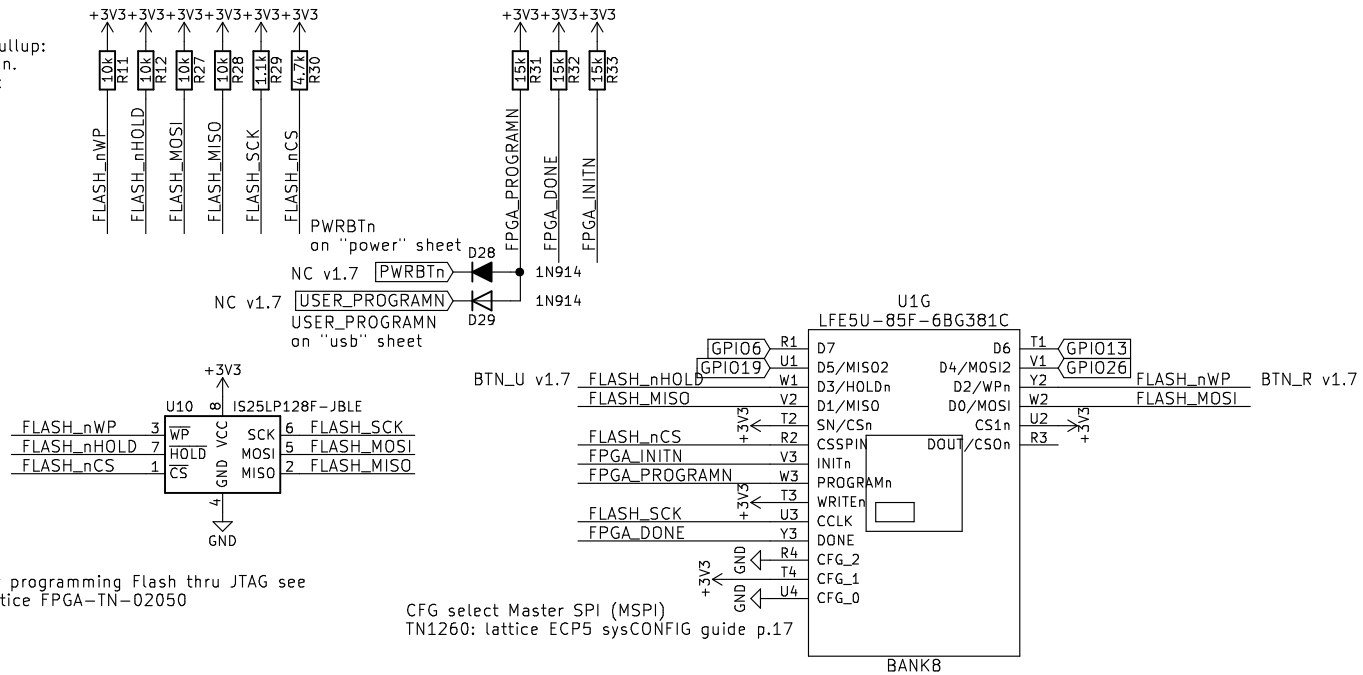
Title: ULX3S

Size: A4	Date:	Rev: 1.0.4
KiCad E.D.A. kicad 5.1.9+dfsg1-1bpo10+1		Id: 9/11

Deviation from TN1260 in pullup:
values for BOM simplification.
Correct values should be 1k
but 1.1k is used.

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

pullups to allow entering USER mode
TN1260: lattice ECP5 sysCONFIG guide p.6, p.8, p.13



License: CERN-OHL-S v2

SPI flash

EMARD

Sheet: /flash/

File: flash.sch

Title: ULX3S

Size: A4

Date:

KiCad E.D.A. kicad 5.1.9+dfsg1-1bpo10+1

Rev: 1.0.6

Id: 10/11

