

ICEZUM ALHAMBRA BOARD

OpenFPGAs made easy

Peripherals

**USER
PERIPHERALS**

peripherals.sch

FPGA

**FPGA
LATTICE iCE40HX1K**

fpga.sch

USB communications

**USB
COMMUNICATIONS**

usb-communications.sch

Arduino sockets

**SOCKETS
AND
HEADERS**

arduino-sockets.sch

Power Supply

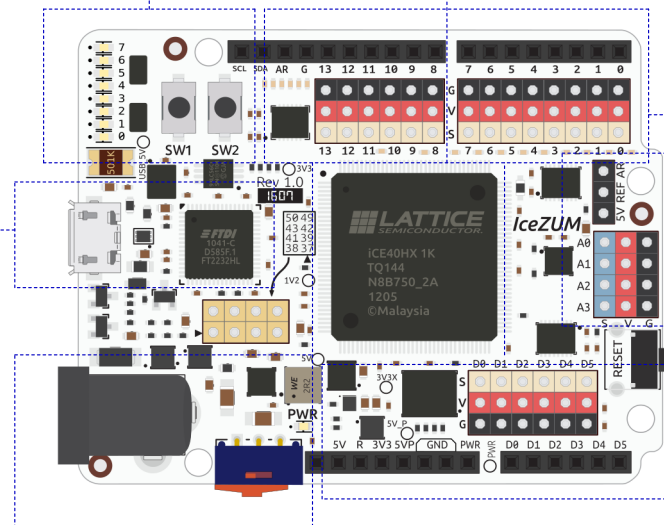
POWER SUPPLY

Power-supply.sch

Block-diagram

**BLOCK
DIAGRAM**

block-diagram.sch



TOP SHEET

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Author: Eladio Delgado Mingorance

Migration to kicad: Juan Gonzalez (Obijuan)

Derived from BQ icezum V1.0

FPGA**wars**

Sheet: /

File: icezum.sch

Title: IceZUM Alhambra FPGA board (TOP SHEET)

Size: A4

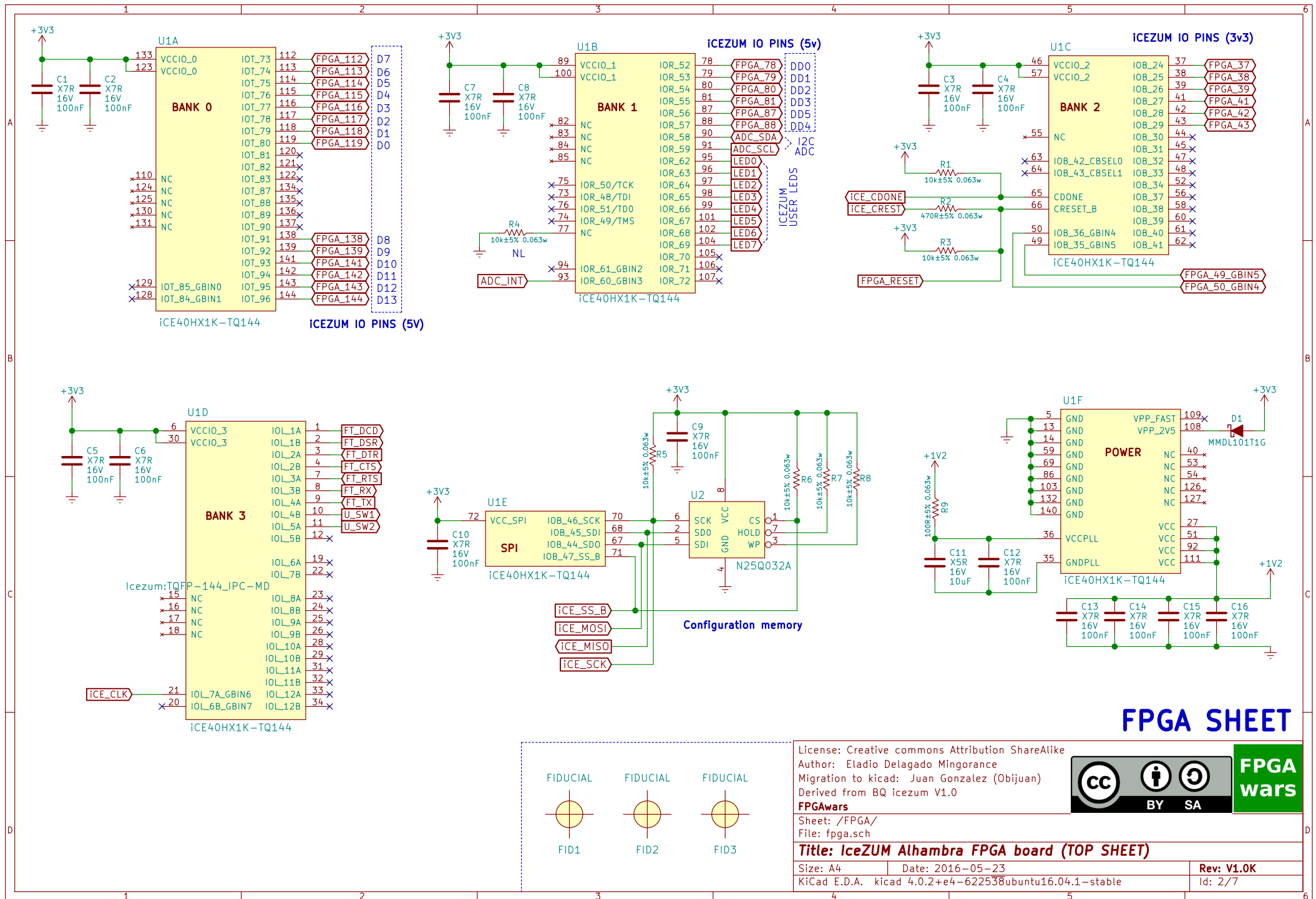
Date: 2016-05-23

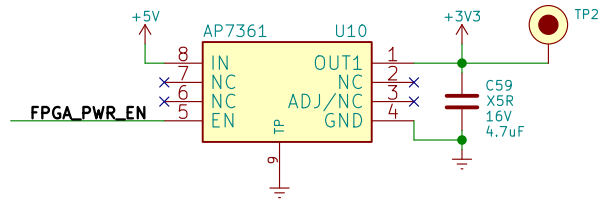
Rev: V1.0K

KiCad E.D.A. kicad 4.0.2+e4-62253ubuntu16.04.1-stable

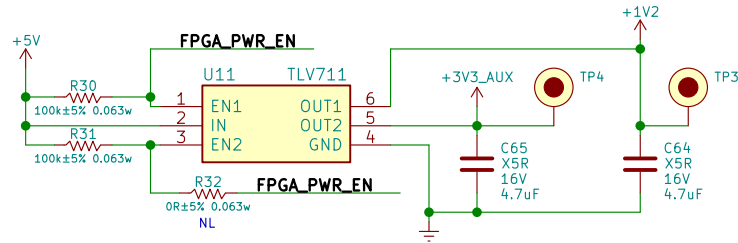
Id: 1/7



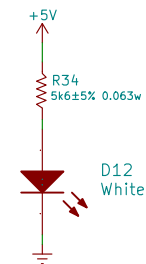




3.3V Rail, 700 mA Max.



1.2V Rail (200 mA) and External 3.3V Rail (200 mA)



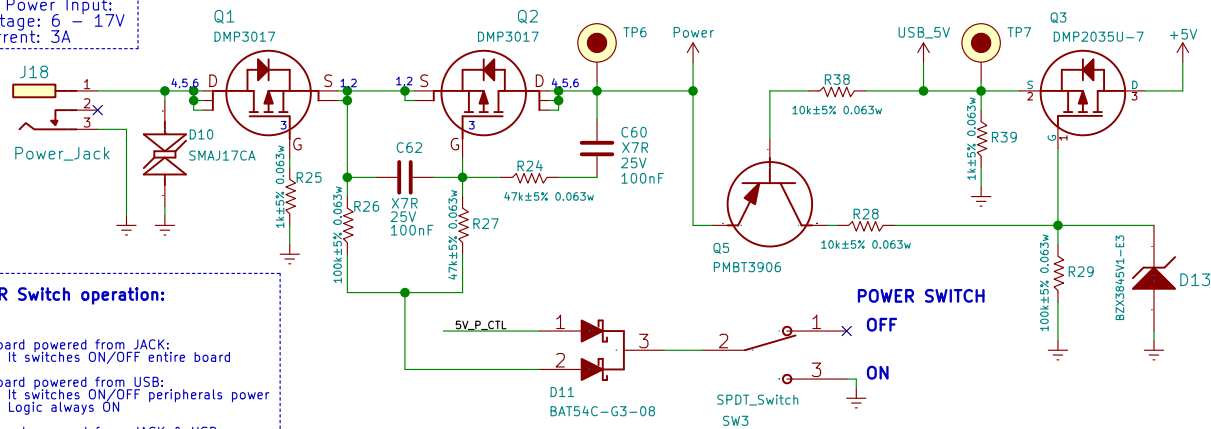
Current measured for max
desired luminosity: 0.48 mA.
 $V_f @ 0.48 \text{ mA} = 2.6V$

Current measured for min
desired luminosity: 0.25 mA.
 $V_f @ 0.25 \text{ mA} = 2.56V$

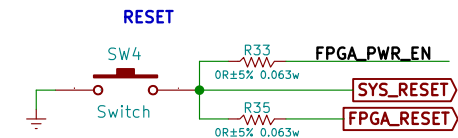
$R=5 \text{ to } 9K\Omega$

POWER LED

DC Power Input:
Voltage: 6 – 17V
Current: 3A

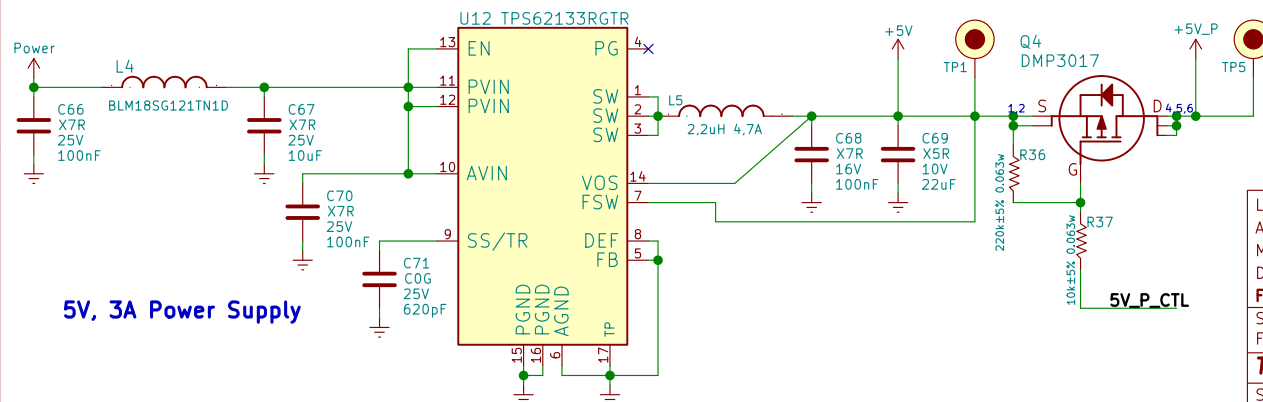
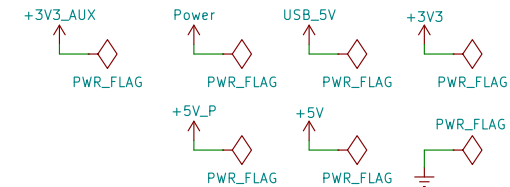


Power Inputs Control and Protections



PWR Switch operation:

- * Board powered from JACK;
It switches ON/OFF entire board
- * Board powered from USB;
It switches ON/OFF peripherals power
Logic always ON
- * Board powered from JACK & USB;
Switch OFF:
Logic ON / Peripherals OFF,
logic powered from USB
Switch ON:
Logic ON / Peripherals ON,
entire board powered from JACK



5V, 3A Power Supply

Power Supply Sheet

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FPGAwards

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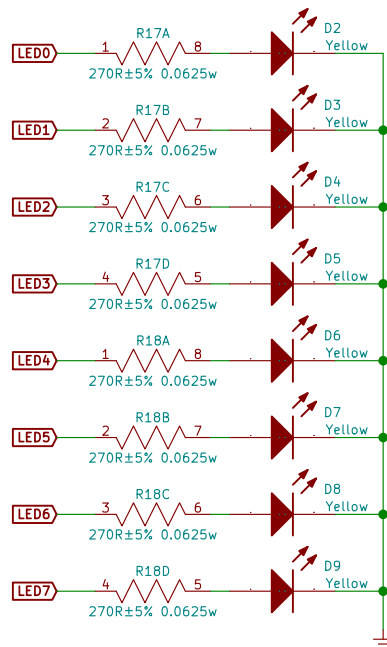
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Rev: V1.0K

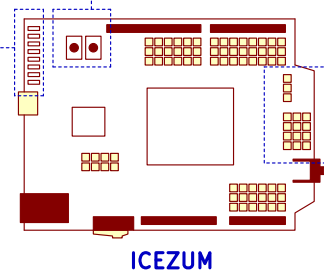
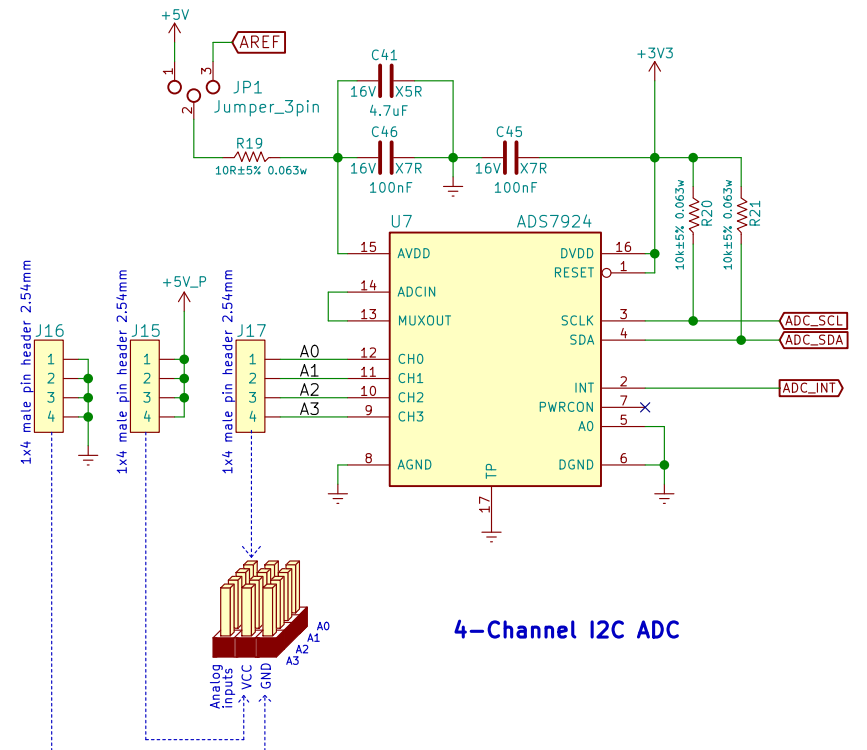
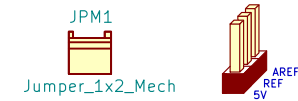
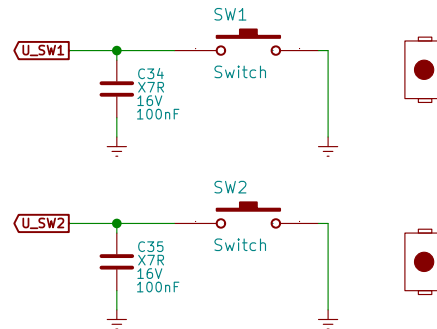
Id: 4/7



User LEDs



User Switches



Peripherals SHEET

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FPGAwars

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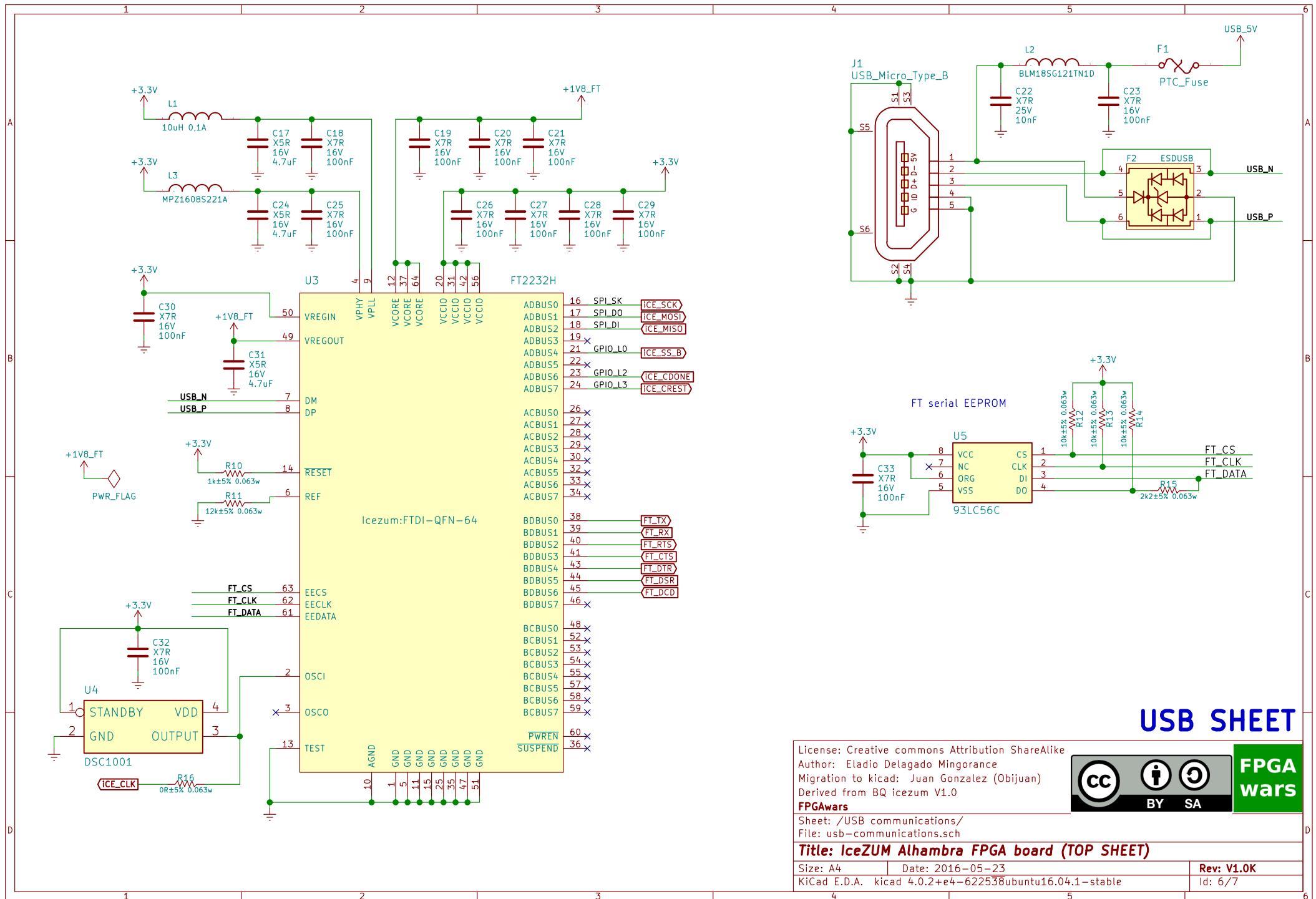
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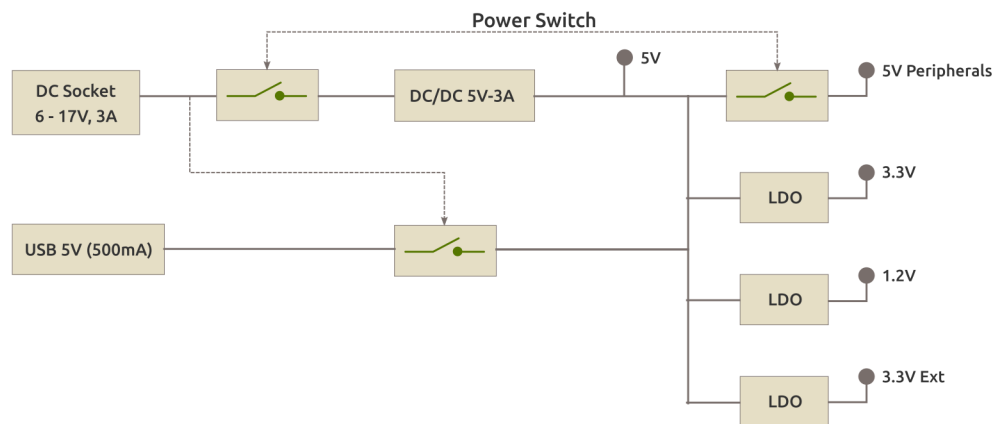
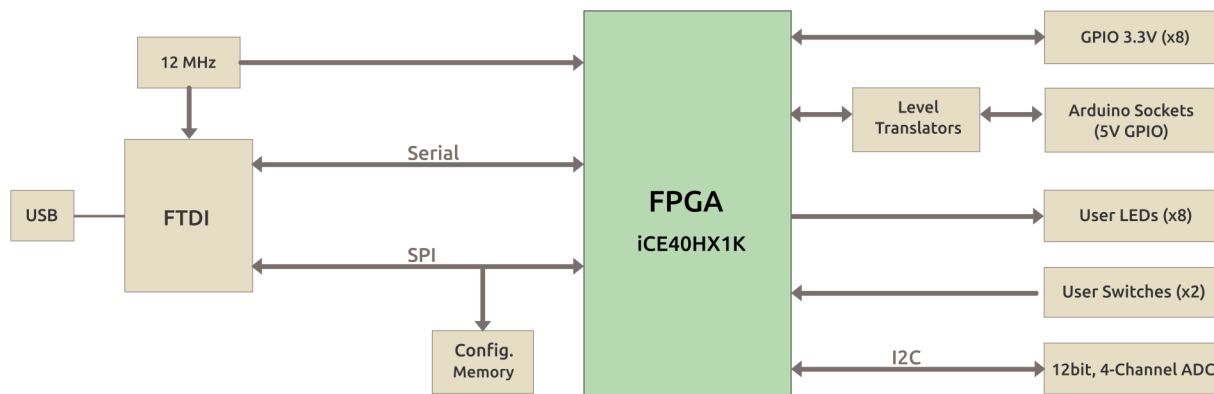
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Id: 5/7



FPGA
wars





Block Diagram sheet

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**FPGA
wars**

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