

STRUCTURE

KEY CARD PRO

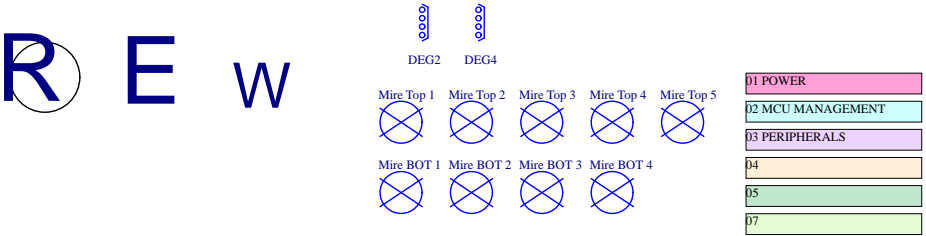
STATUS K PRO

2282

ELECTRONIC SCHEMATICS

FOLIO - 01	01 POWER.SchDoc
FOLIO - 02	02 MCU.SchDoc
FOLIO - 03	03 PERIPHERALS.SchDoc

REVISION TABLE			
Revision	Date	Who	Modification description and purpose
V3.0.0	30/09/2024	DL	Creation
V3.0.1	31/10/2024	DL	Courant de charge - 445mA au lieu de 500mA
V3.1.1	4/11/2024	DL	Pochoir pour dome
V3.2.2	9/12/2024	DL	Chagement Switch (TS à la place des dômes)
V3.3.2	2/01/2025	DL	DFM
V3.3.3	16/01/2025	DL	Cost Killing
V3.4.4	29/01/2025	DL	Pb Exinction du produit à l'insertion de l'USB -> D6
V3.5.5	03/04/2025	DL/MCH	Modification VBUS OK et STAT1 & STAT2
V3.6.6	11/04/2025	MCH	Demande M.CLOSIER - Switch 100gr + Deamnde Client R100
V3.6.7	09/05/2025	DL	Modification Transistor T1 => On semi
V3.7.8	09/05/2026	DL	Demande M.CLOSIER - Switch 160gr



Project Title: STATUS K PRO		
STATUS KPRO  KPRO Reader	Folio Title: 00 Structure.SchDoc	
	Project Number: 2282 - 600	Board: KCP
	Revision: V3.8	Date: 11/04/2025
	Drawn by: D.LEBRUN	Folio: 0 / 3
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## BATTERY MANAGEMENT

The diagram illustrates a battery management system for a Li-ion BLA6 battery (650mAh). The system includes a USB input, a battery (BAT), and a system supply (VSYS). Key components and connections are as follows:

- USB Input:** VUSB is connected to a 100μF capacitor and a 25V 4.7μF capacitor. The USB is connected to the IN pin of the battery management IC.
- Battery (BAT):** The battery is connected to the BAT pin of the IC. A 25V 4.7μF capacitor is connected between BAT and GND.
- System Supply (VSYS):** VSYS is connected to the VSYS pin of the IC. A 25V 4.7μF capacitor is connected between VSYS and GND. The VSYS pin is also connected to a 15mA current source and a 100k resistor to GND.
- Temperature Sensor (NTC):** The NTC is connected to the NTC pin of the IC. A 100k resistor is connected between NTC and GND.
- Control Pins:** The IC has several control pins: IN, IN, BAT, BAT, MODE, SYS, SYS, ICHSET, STAT1, TMR, STAT2, CEB, NTC, TH\_PAD, and GND. These are connected to various components and the microcontroller.
- Microcontroller (MCU):** The MCU is connected to the IC via pins 11, 12, 13, 14, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, and 0. The MCU is also connected to the USB and the battery.
- Other Components:** A 100k resistor is connected between VUSB and GND. A 25V 4.7μF capacitor is connected between VUSB and GND. A 100k resistor is connected between VSYS and GND. A 100k resistor is connected between NTC and GND. A 100k resistor is connected between TH\_PAD and GND.

The circuit is controlled by a microcontroller (MCU) with various pins connected to the battery management IC. The MCU is also connected to the USB and the battery.

CEB disabled when no USB power  
in order to reduce SYS Reverse to BAT Switch  
Leakage current to 1uA

### POWER SWITCH

When SC Switch activated => the VSYS\_SWITCHED goes to ON after a time defined by R20,C8, R21 and R22

From Card Reader Switch

SC\_SW

SC\_PRES\_SW

VSW

VSYS\_SWITCHED

1V8\_6V@1A

SW

PG

TEST

SHDN

GND

TH\_FAD

NC

Power on pulses on SmartCard insertion

Diastolic COG\_XTR\_XSR

When SC Switch disabled => the VSYS\_SWITCHED goes to ON when S3 is activated

When SC Switch activated => S3 is disable

C8 -> 0603 => Rationalisation des refs

### 3V05 MAKER

The circuit diagram illustrates the 3V05 Maker, a voltage converter. It begins with a **VSYS\_SWITCHED** input, which is filtered by a  $22\mu\text{F}$  capacitor ( $C_{219}$ ) and a  $100\text{nF}$  capacitor ( $C_{218}$ ) to ground. The signal then passes through a  $4.7\mu\text{F}$  capacitor ( $C_{211}$ ) and a  $25\text{V}$  Zener diode ( $D_{211}$ ) in series. The output of the Zener is connected to the **VIN** pin of the **SY8088** converter. The **EN** pin of the SY8088 is connected to ground through a  $49\text{k}\Omega$  resistor ( $R_{205}$ ). The **FB** pin is connected to a feedback network consisting of a  $205\text{k}\Omega$  resistor ( $R_{205}$ ) and a  $50\text{V}$   $10\text{pF}$  capacitor ( $C_{205}$ ). The output of the SY8088 is connected to a  $2.2\mu\text{H}$  inductor ( $L_1$ ) and a  $1.3\text{A}$  diode ( $D_1$ ). The output of the diode is connected to a  $22\mu\text{F}$  capacitor ( $C_{224}$ ) and a  $100\text{nF}$  capacitor ( $C_{223}$ ) to ground. The final output is connected to a  $4.7\mu\text{F}$  capacitor ( $C_{225}$ ) and a  $25\text{V}$  Zener diode ( $D_{225}$ ) in series, which is then connected to the **V3P0** output.

**2V8 MAKER CAMERA**

**1V5 MAKER CAMERA**  
Image Sensor (120nm) 1V5

**1V8 MAKER**

[illegible]

01 POWER
02 MCU MANAGEMENT
03 PERIPHERALS
04
05
07

## STATUS KPRO

Folio Title: 01 POWER.SchDoc

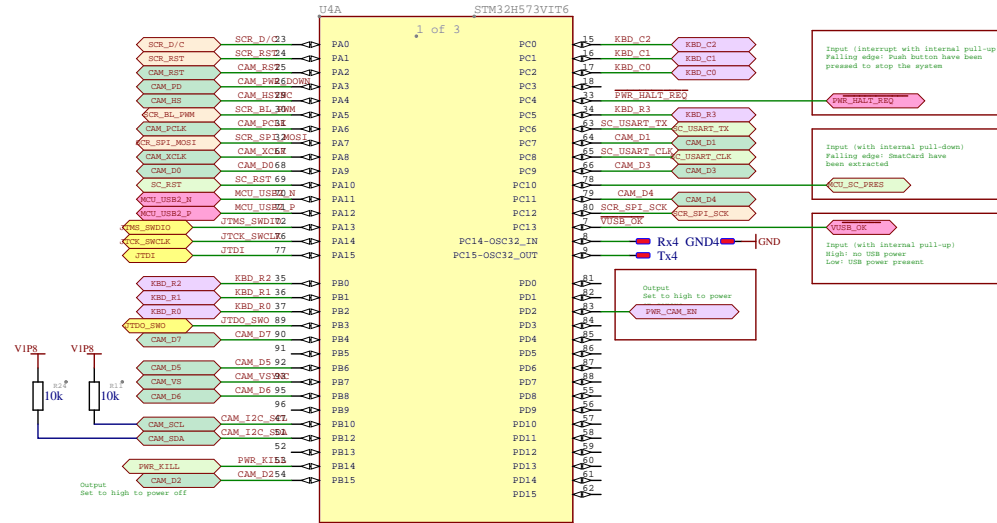
Board: KCP

Date: 11/04/2025

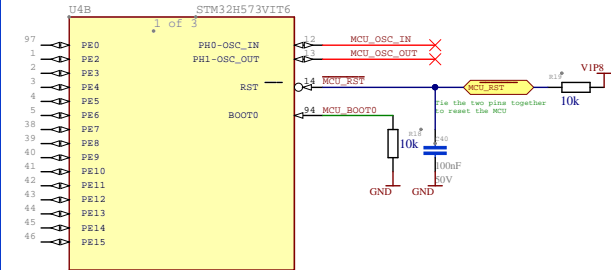
Folio: 1 / 3

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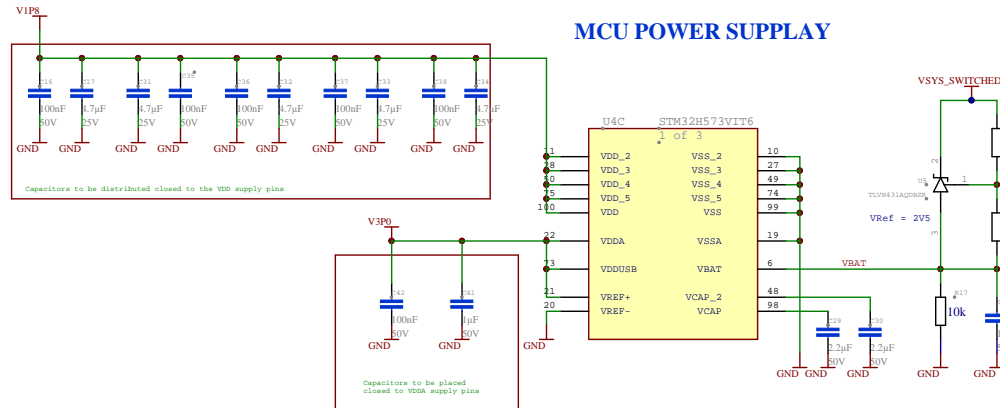
## MCU PIN OUT - PA PB PC PC



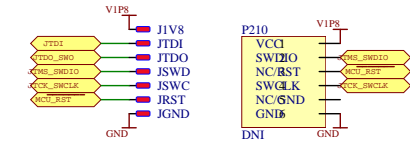
## MCU PIN OUT - PE PF



## MCU POWER SUPPLY



## MCU PROGRAMMING PORT (JTAG)



01 POWER
02 MCU MANAGEMENT
03 PERIPHERALS
04
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Project Title: STATUS K PRO

STATUS KPRO

KPRO Reader

Folio Title: 02 MCU.SchDoc

Project Number: 2282 - 600

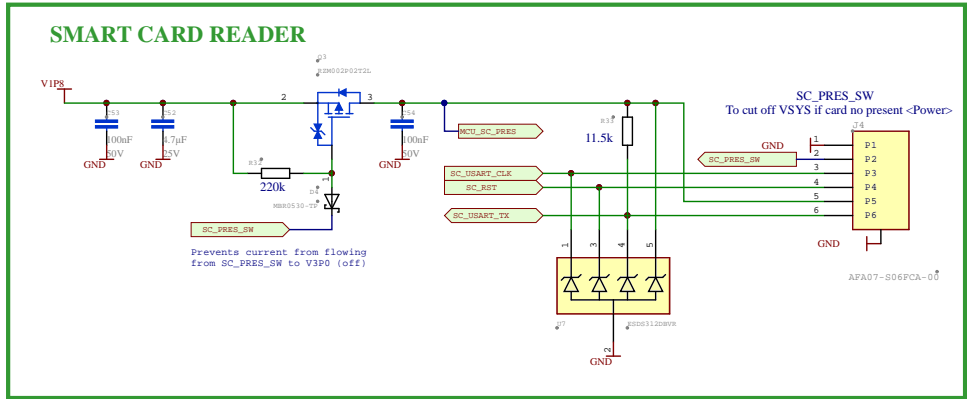
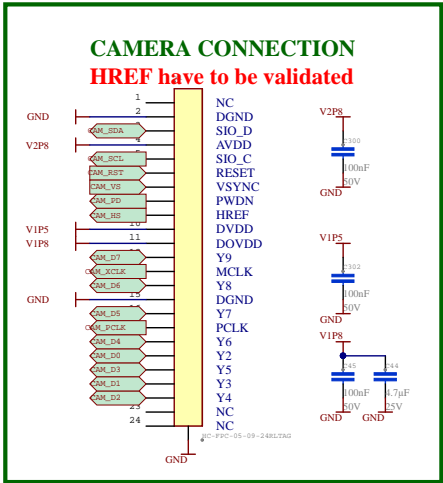
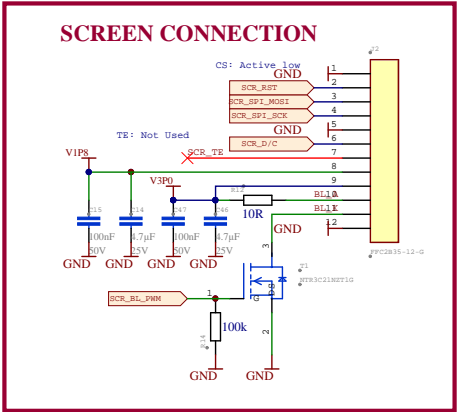
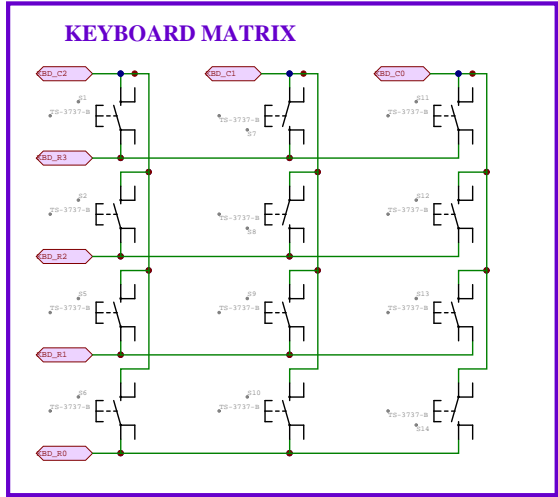
Board: KCP

Revision: V3.8

Date: 11/04/2025

Drawn by: D.LEBRUN

Folio: 2 / 3



01 POWER
02 MCU MANAGEMENT
03 PERIPHERALS
04
05
07

Project Title: STATUS K PRO

STATUS KPRO

KPRO Reader

16/02/2024 10:59:17

Folio Title: 03 PERIPHERALS.SchDoc

Project Number: 2282 - 600

Board: KCP

Revision: V3.8

Date: 11/04/2025

Drawn by: D.LEBRUN

Folio: 3 / 3

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