

# VM02\_hv2.PrjPcb

## STATUS: RELEASED 17.10.2018

STATUS TYPES:IN WORK,TESTING,RELEASED

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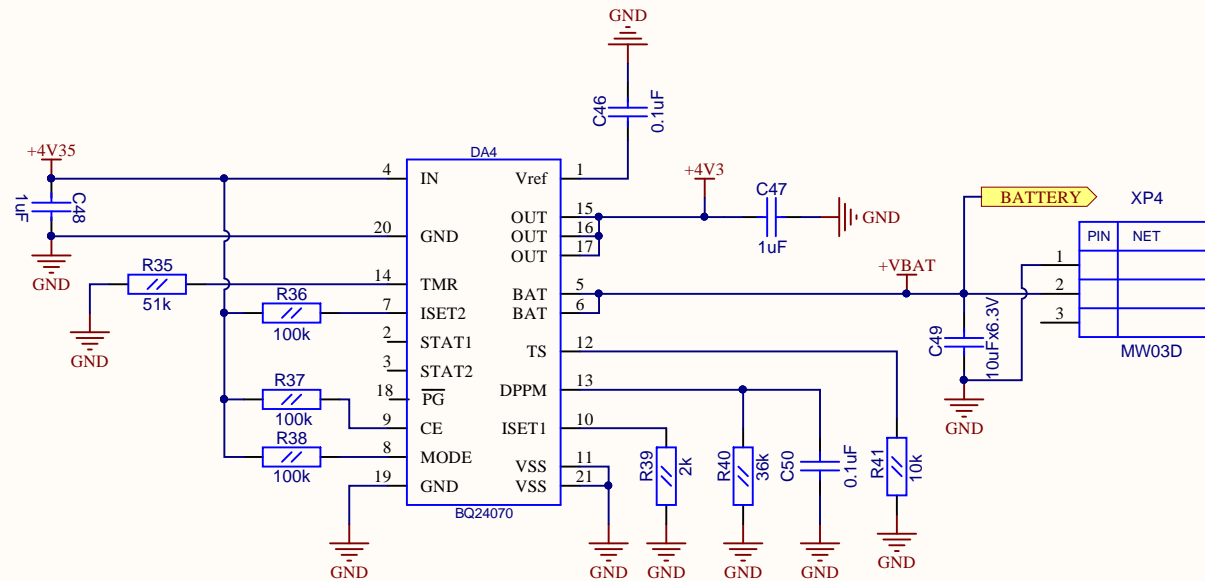
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Date:	17.10.2018	Sheet of
File:	E:\Projects Files\...\[1]-COVER_PAGE_Sd.dwg	
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The schematic diagram illustrates a protection circuit for a 12V battery. The input voltage  $V_{IN}$  is connected to terminal TP8. The circuit includes a fuse  $FU1$  (RXE-250) and a diode  $VD3$  (S3M) for input protection. A series inductor  $L3$  (15uH) is followed by a diode  $VD11$  (1.5KE150A) and a parallel combination of a capacitor  $C37$  (470uFx35V) and a capacitor  $C36$  (0.1uFx250V) connected to ground. A diode  $VD12$  (BZV55C39) is connected in parallel to ground. A resistor  $R28$  (220k) is connected in series with a transistor  $VT10$  (BC857) and a resistor  $R29$  (220k). A diode  $VD10$  (BZV55C15) is connected in parallel to ground. A MOSFET  $VT9$  (IRFR9220) is connected in series with a resistor  $R30$  (220k) to ground. The output voltage is  $V_{IN\_F}$ .

Date:	11.10.2018	Sheet
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# [11]-BATTERY\_BACKUP.SchDoc

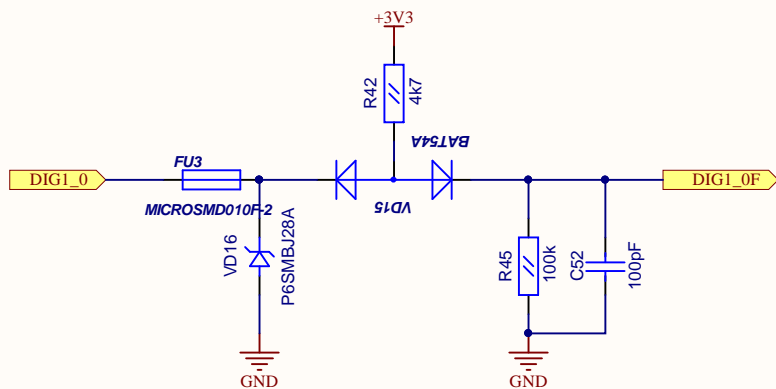
## BATTERY POWER-PATH CONTROLLER



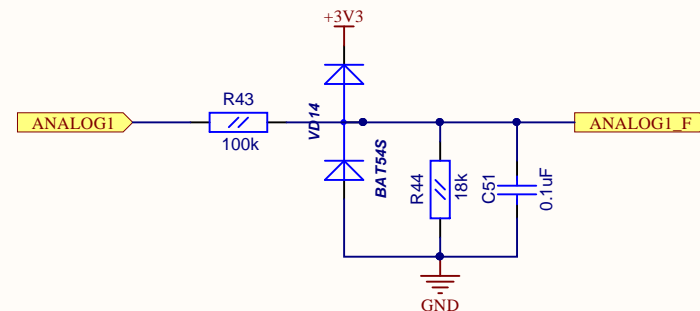
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Date:	17.10.2018	Sheet of
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# [12]-MCU\_INPUTS.SchDoc

DIGITAL INPUT ACTIVE 0

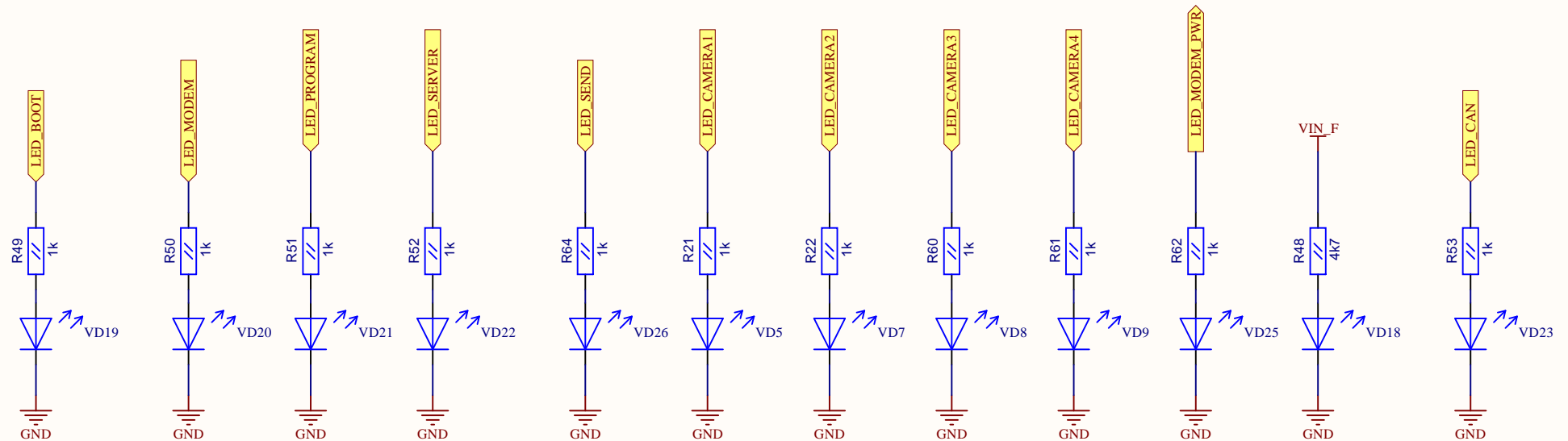


ANALOG INPUT 0-20V



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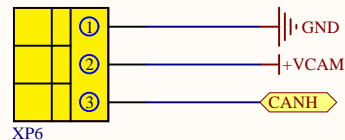
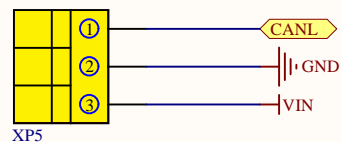
# [13]-LED\_INDICATION.SchDoc



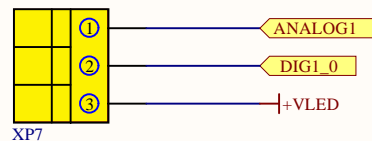
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File:	E:\Projects Files\...\[13]-LED_INDICATION.SchDoc		

# [14]-MAIN\_CONNECTORS.SchDoc

## S6 CONNECTOR



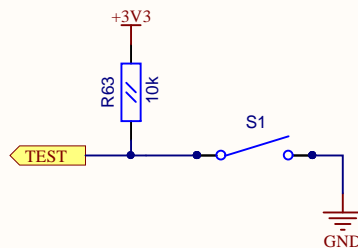
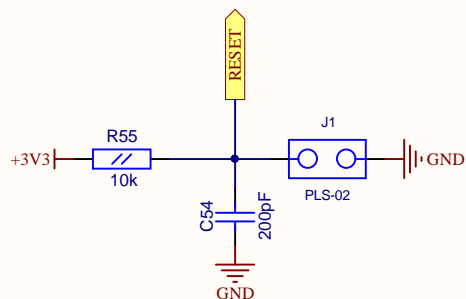
## INPUTS



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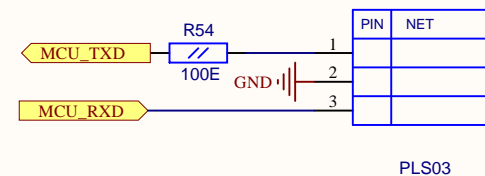
# [15]-MCU\_CONNECTORS.SchDoc

## RESET JUMPER

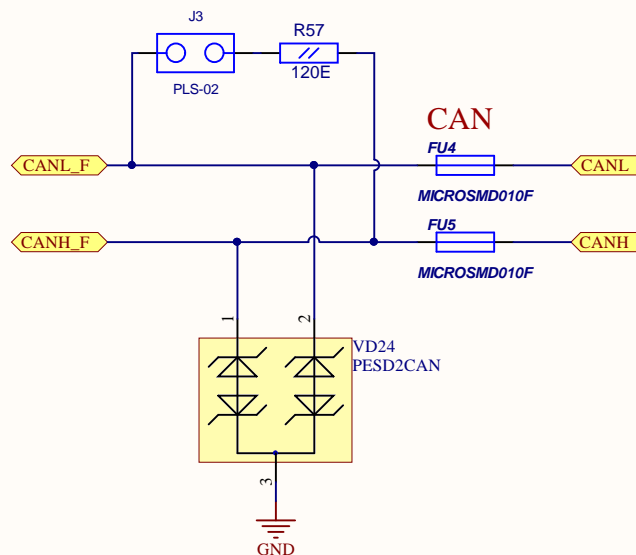
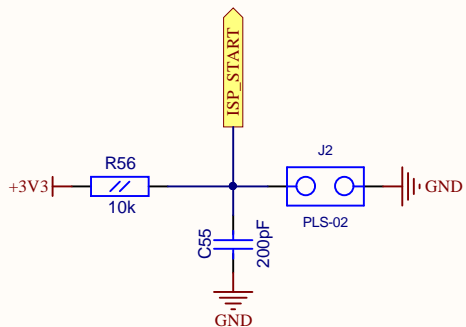


## UART

XP10

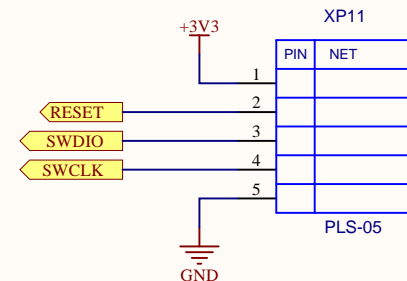


## FIRMWARE START JUMPER



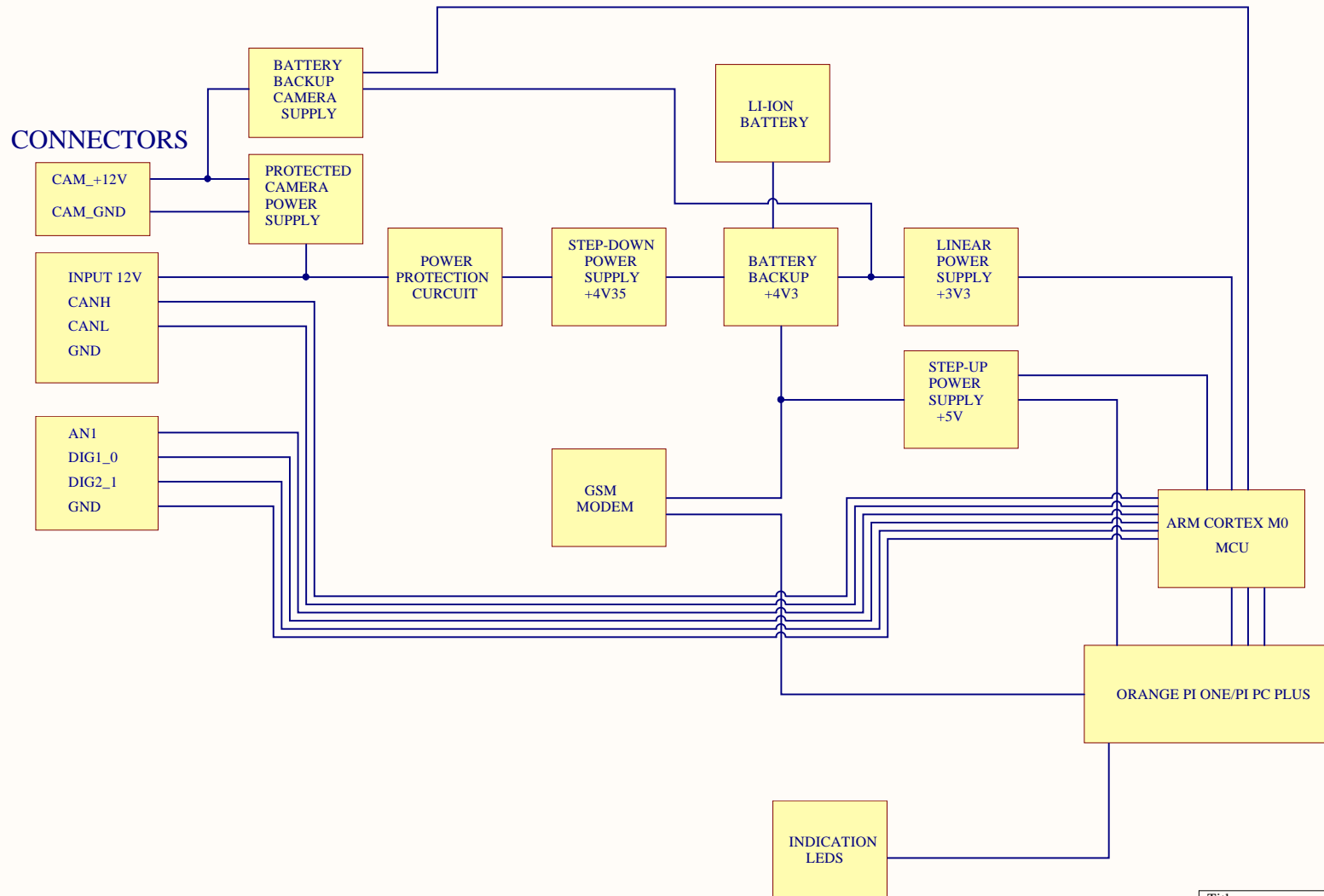
## SWD

XP11



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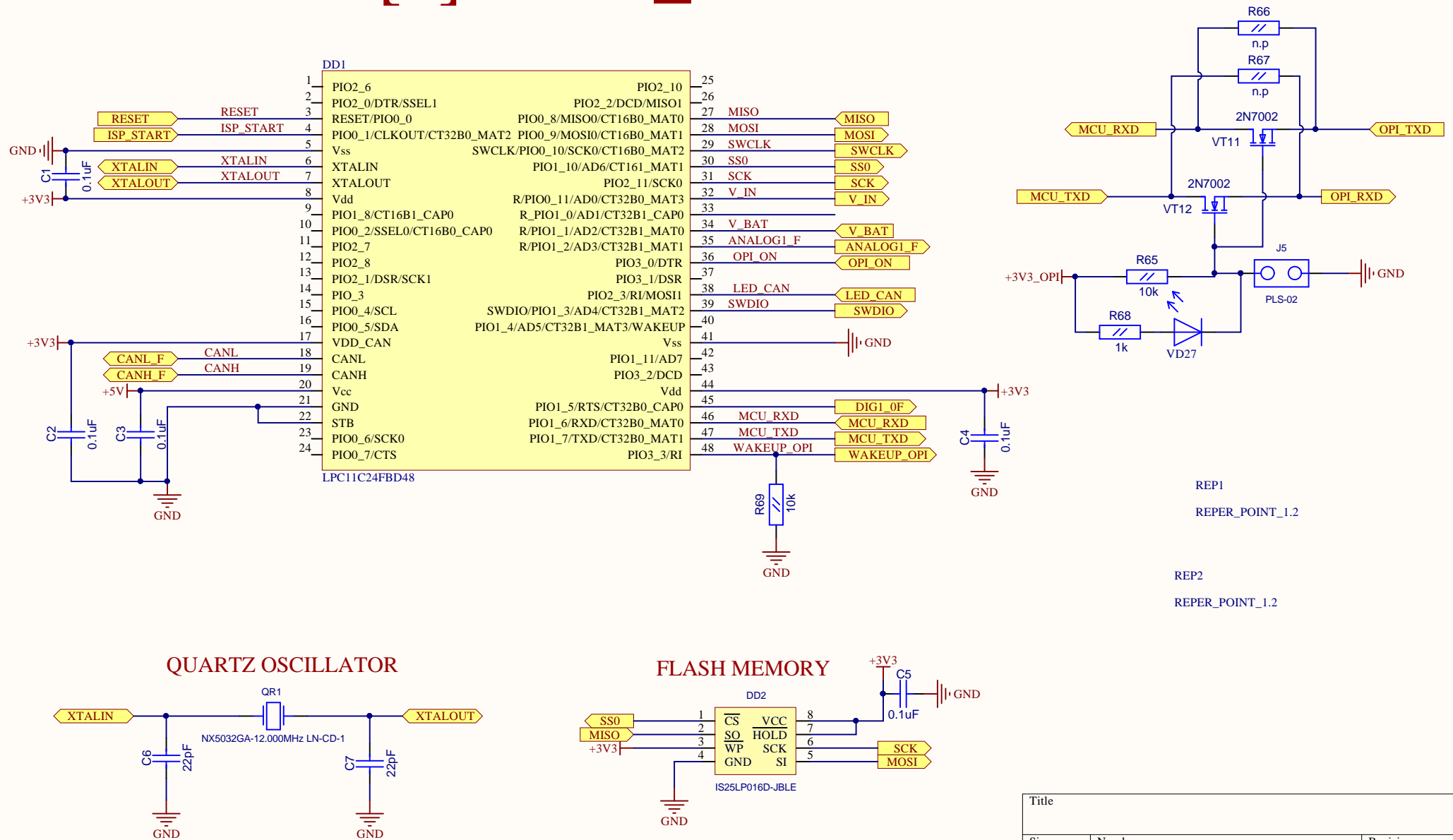
# [2]-BLOCK\_DIAGRAM.SchDoc



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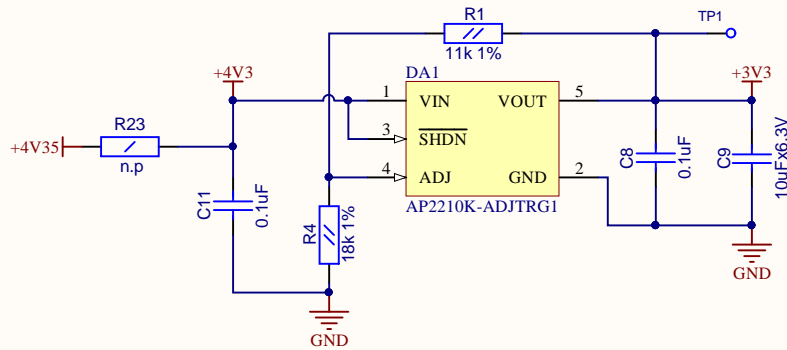
# [3]-MCU\_MAIN.SchDoc



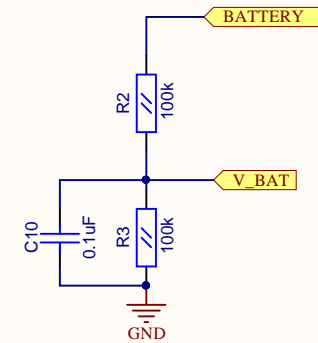
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# [4]-MCU\_POWER.SchDoc

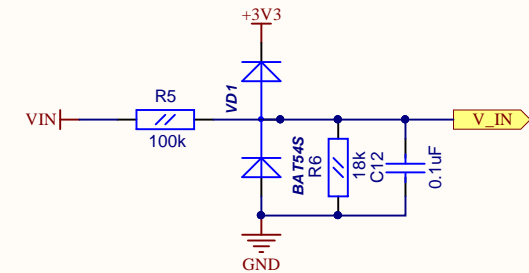
## +3V3 LINEAR POWER SUPPLY



## BATTERY MEASURE

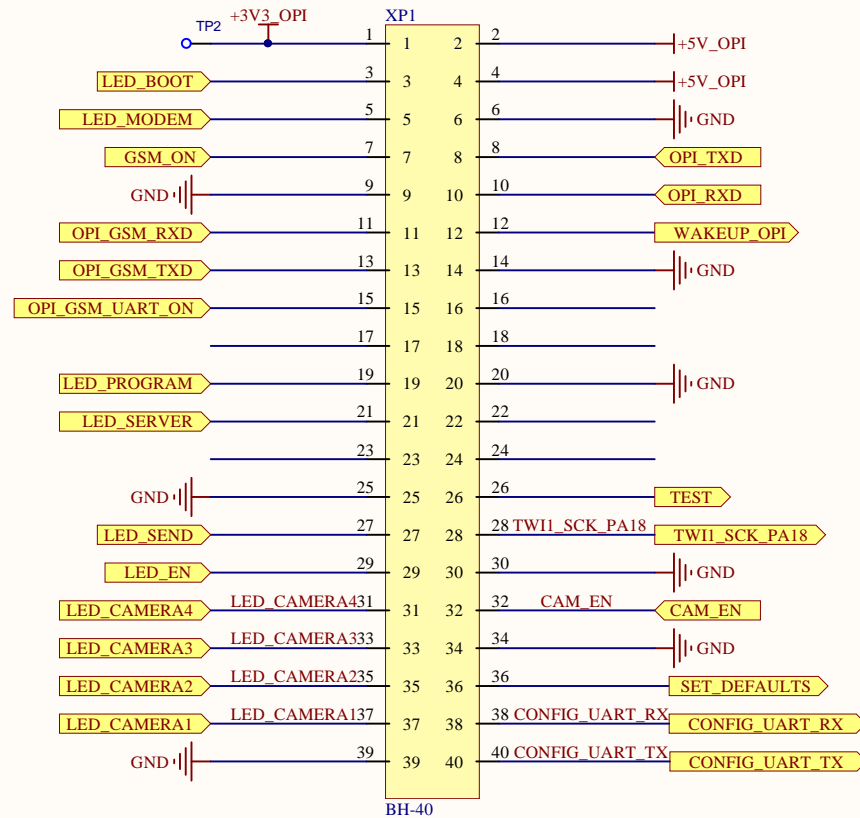


## INPUT VOLTAGE MEASURE

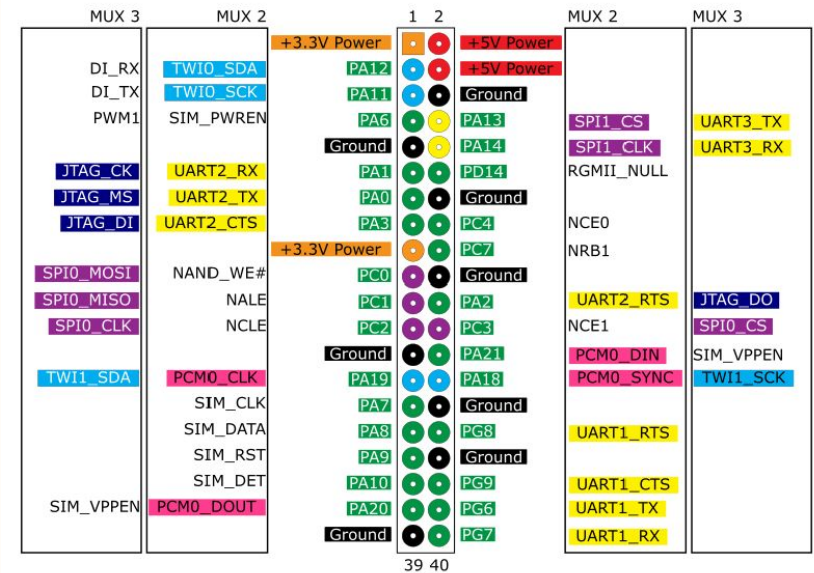


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# [5]-OPI\_MAIN.SchDoc

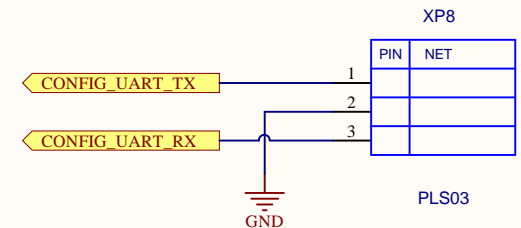
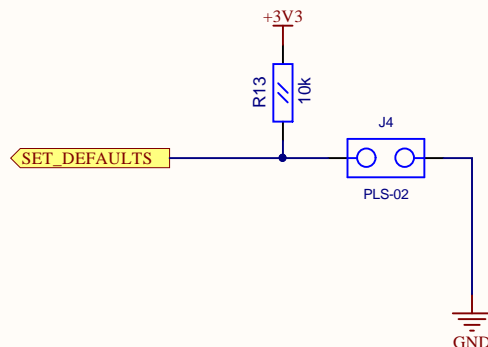


## Orange Pi (H3 SoC) GPIO - pinout



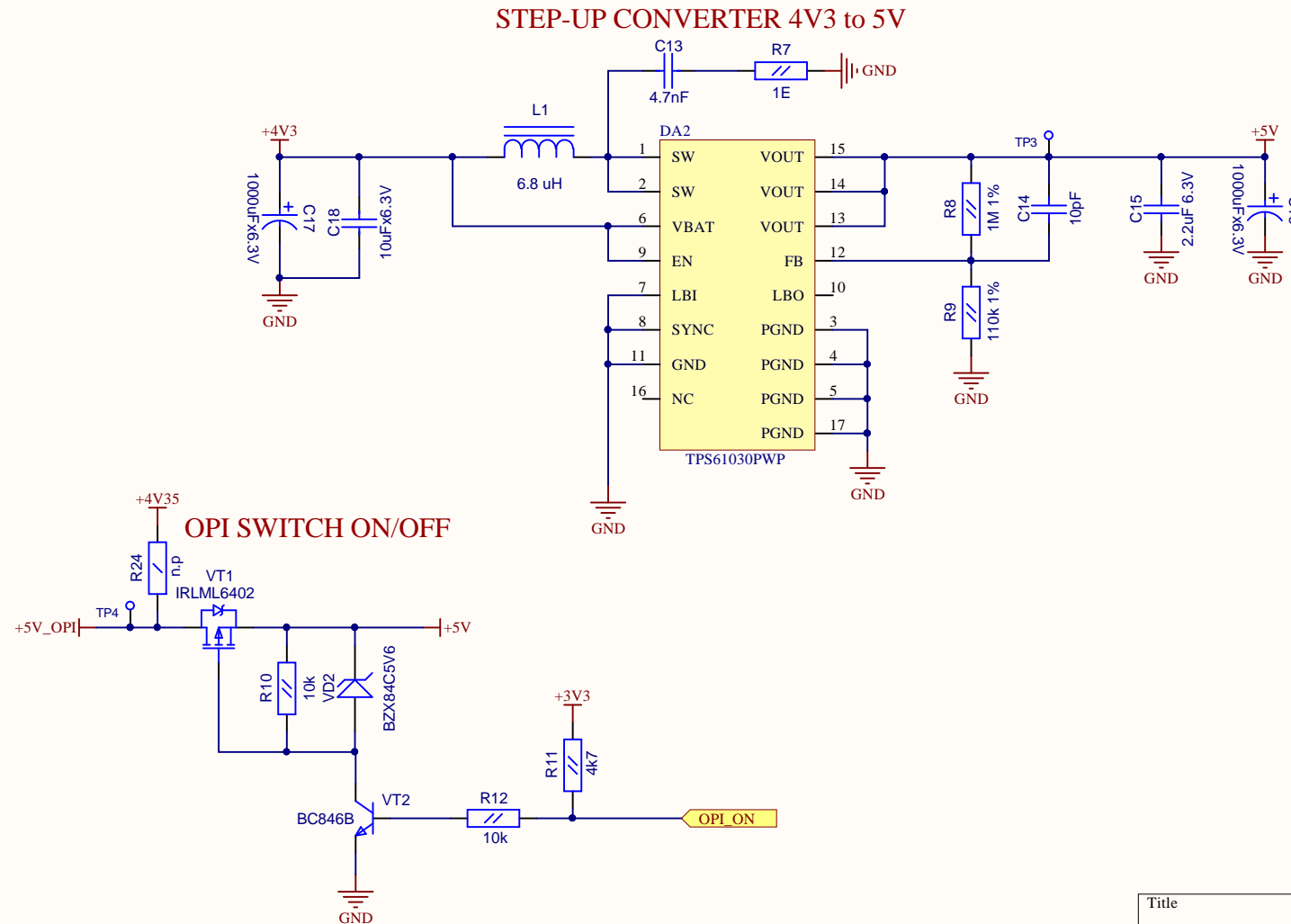
NOTE: GPIO voltage levels are 3.3V.

JTAG I2C SPI +5V GPIO UART +3.3V Ground I2S/PCM



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Date:	17.10.2018	Sheet of
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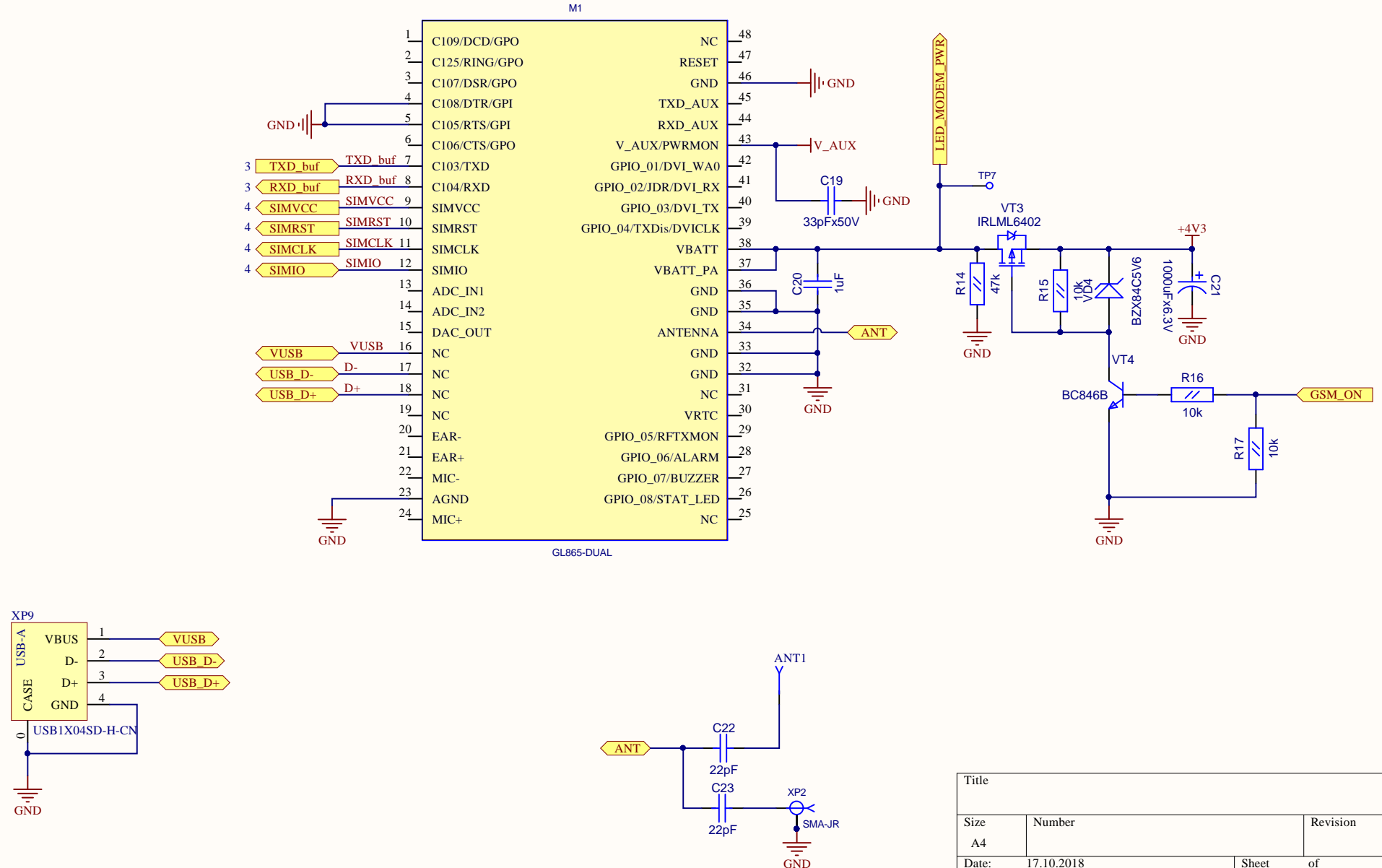
# [6]-OPI\_POWER.SchDoc



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Date:	17.10.2018	Sheet of
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# [7]-GSM\_MODEM\_MAIN.SchDoc

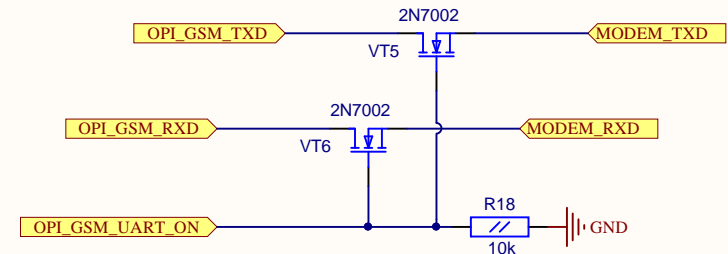
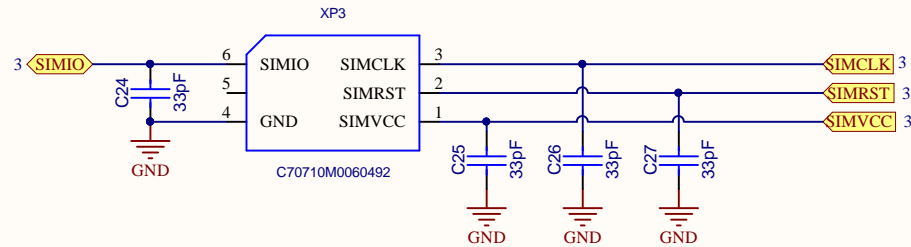
## GSM 2G MODEM



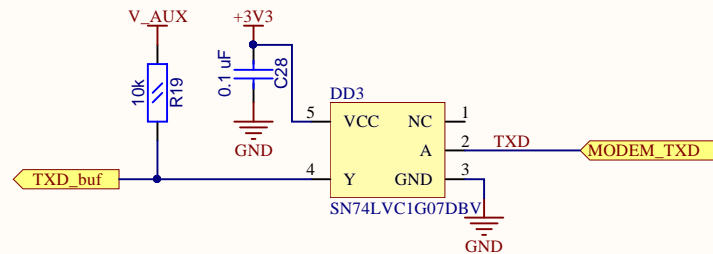
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# [8]-GSM\_MODEM\_CONNECTORS.SchDoc

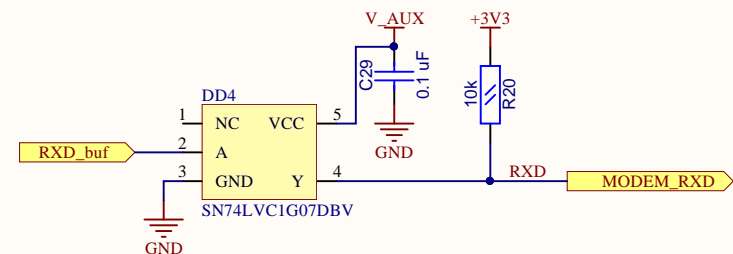
## MICRO SIM CARD



## VOLTAGE LEVEL CONVERTER TXD

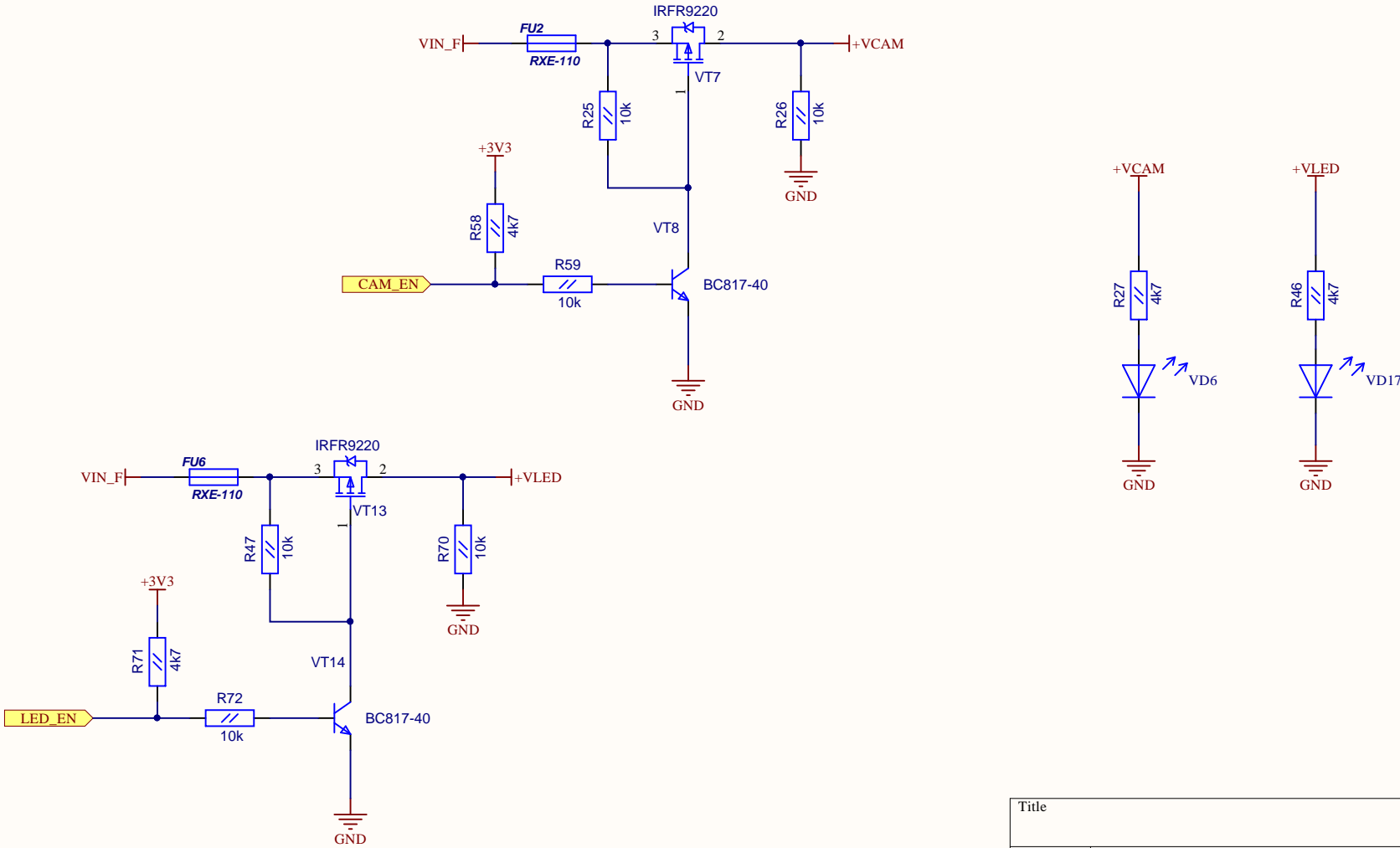


## VOLTAGE LEVEL CONVERTER RXD



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# [9]-CAMERA\_POWER\_CONTROLLER.SchDoc



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Date:	17.10.2018	Sheet of
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