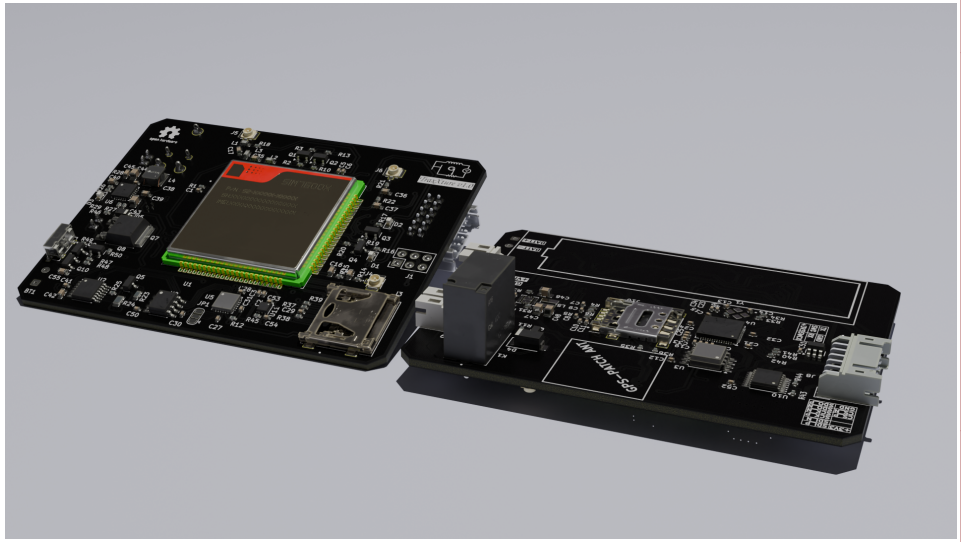
TraxXture



HGO TECHNOLOGIES

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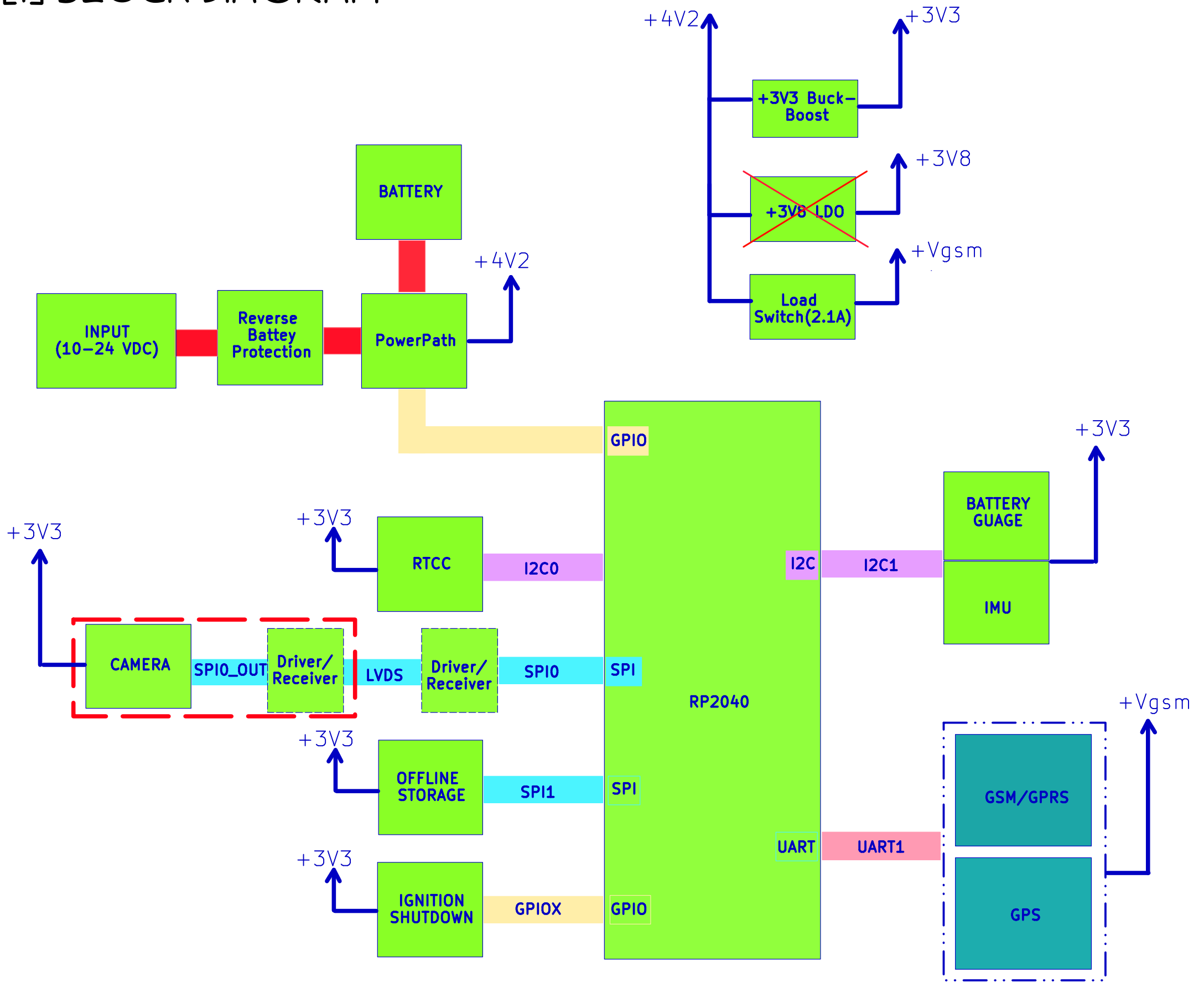
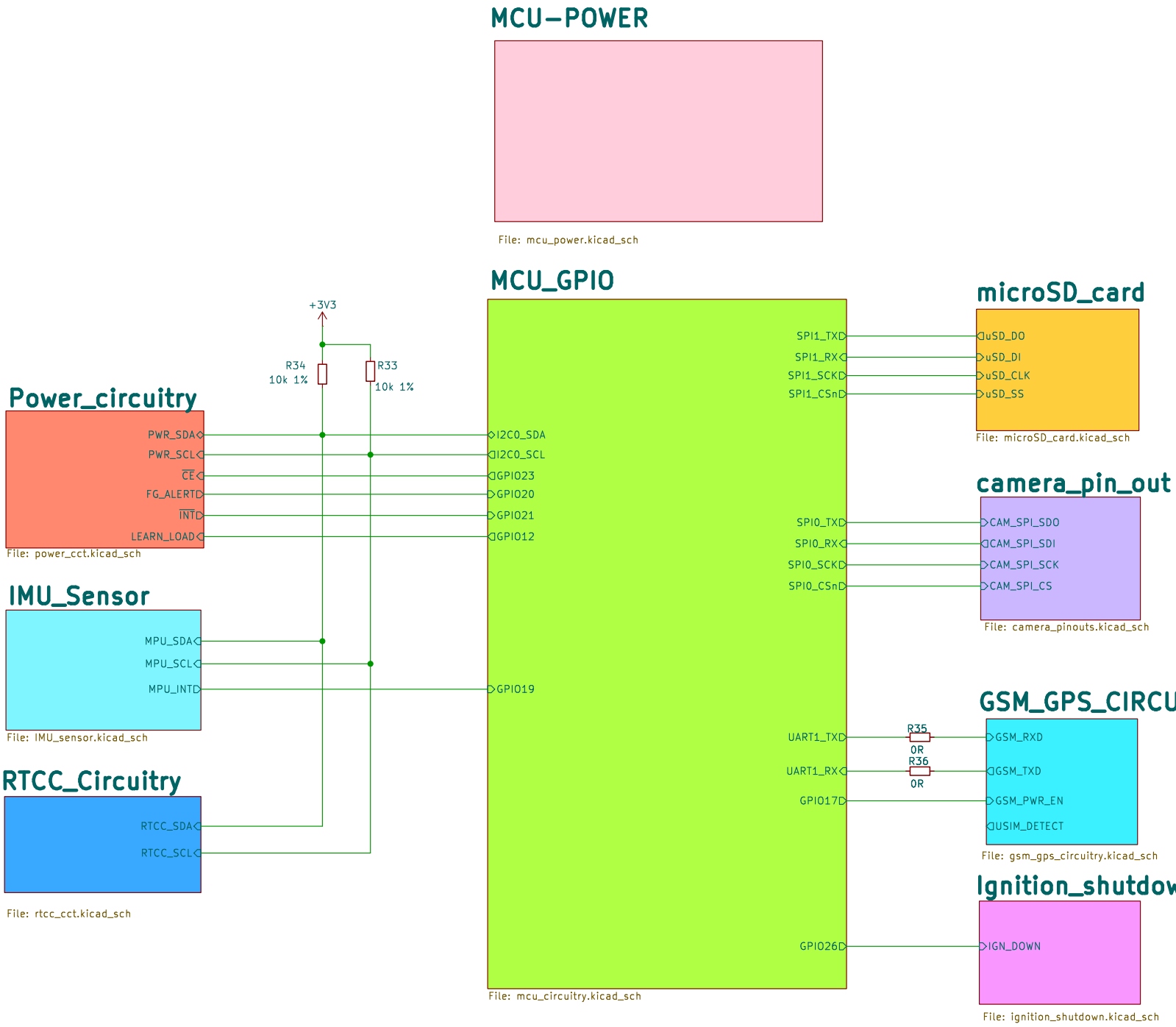
File: TraxXturE_board.kicad_sch		Sheet: /	
STATUS:	Designer: Hassan Omotoba	**Version: 1.0**	**Rev: 0.0**
KiCad E.D.A. 8.0.8	Date:	Size: A4	Id: 0/12

[1] BLOCK DIAGRAM



HGO TECHNOLOGIES	
Title:	TraxXturE
File: blck_dia.kicad_sch	Sheet: /Block_diagram/
STATUS:	Designer: Hassan Omotoba
Size: User	Id: 1/12

[2] ARCHITECTURAL DIAGRAM



HGO TECHNOLOGIES	
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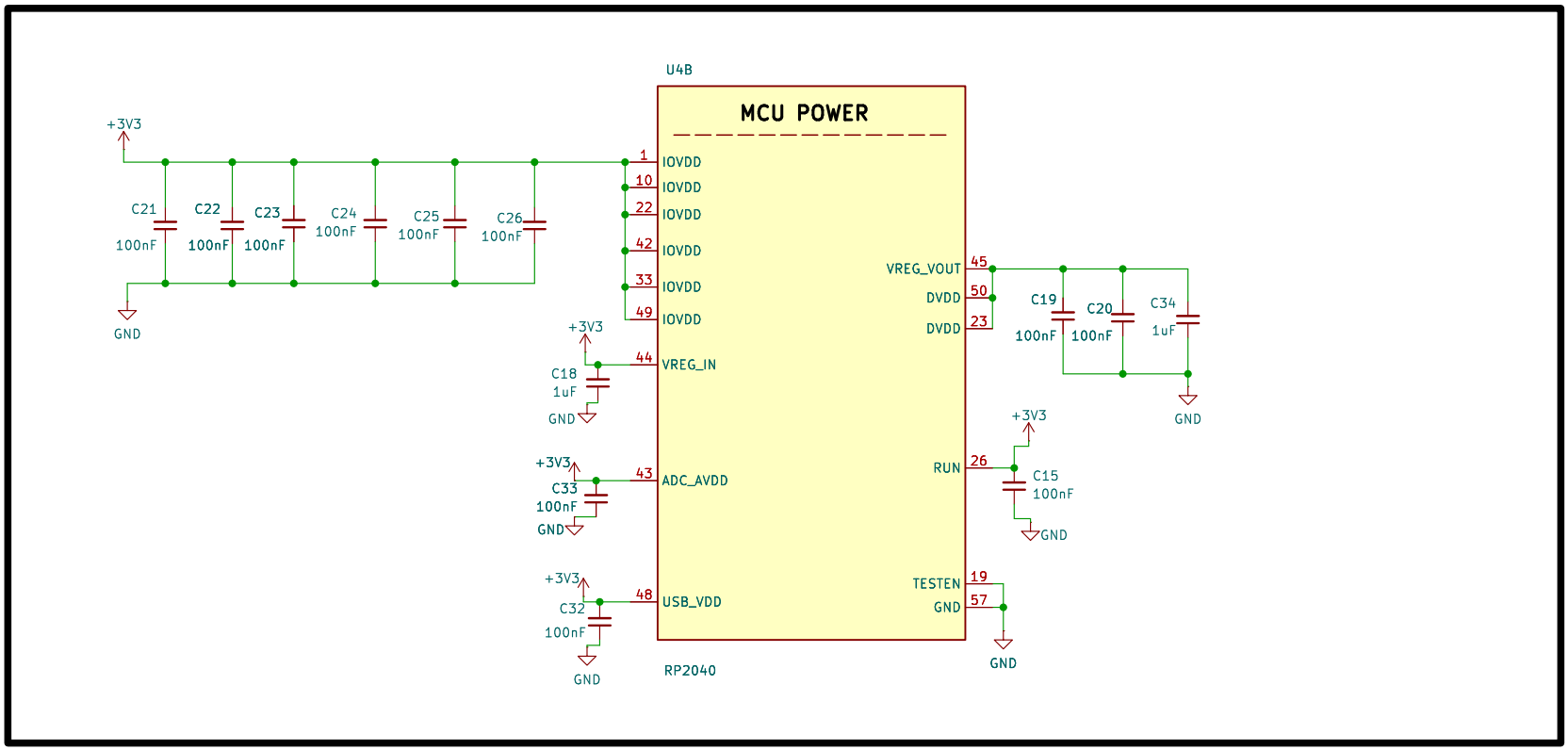
STATUS:	Designer: Hassan Omotoba
Size: User	Id: 2/12

[3] MCU POWER



3.3 – 3.63V

HGO TECHNOLOGIES	
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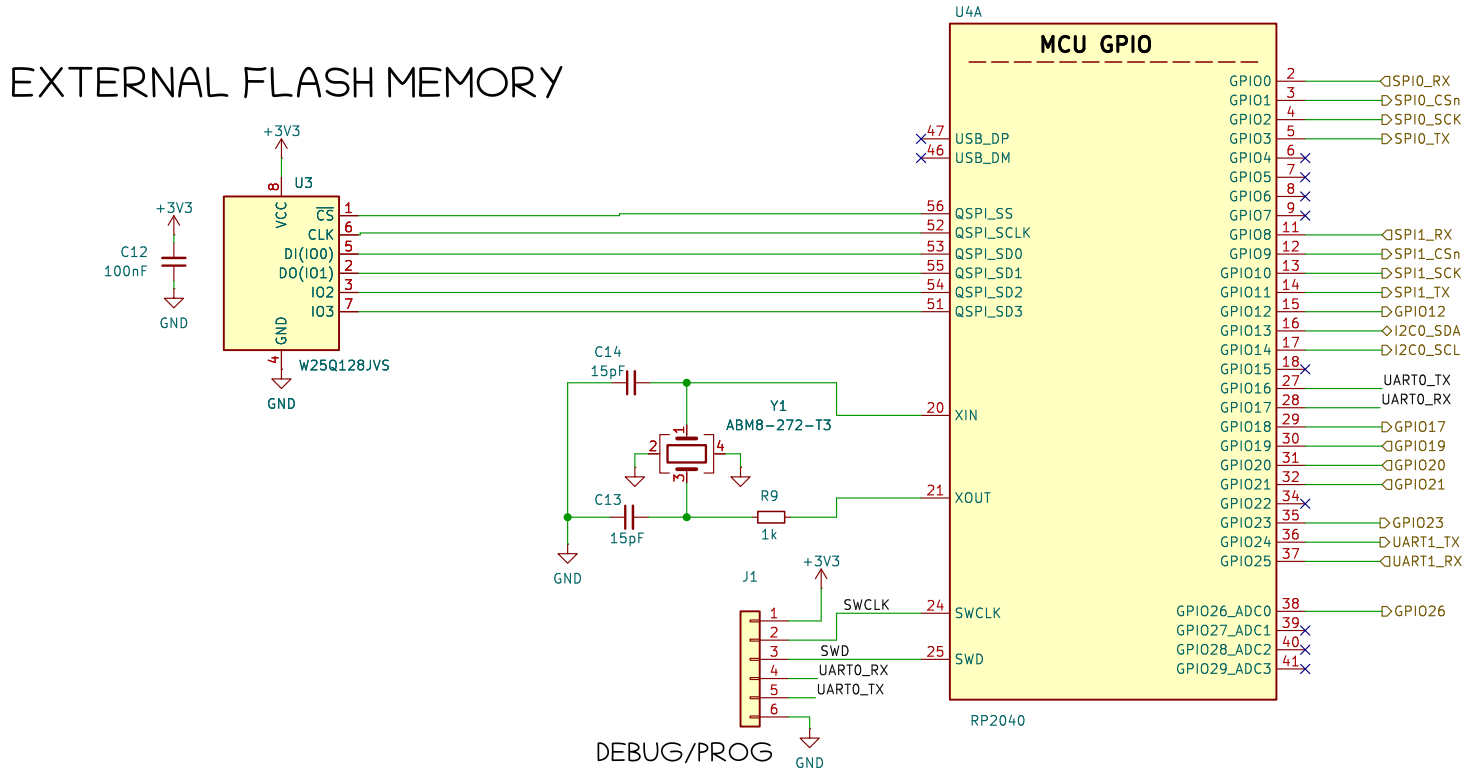
File: mcu_power.kicad_sch	Sheet: /Architectural_diagram/MCU-POWER/
STATUS:	Designer: Hassan Omotoba
Size: A4	Id: 3/12

[4] MCU GPIO



HGO TECHNOLOGIES		
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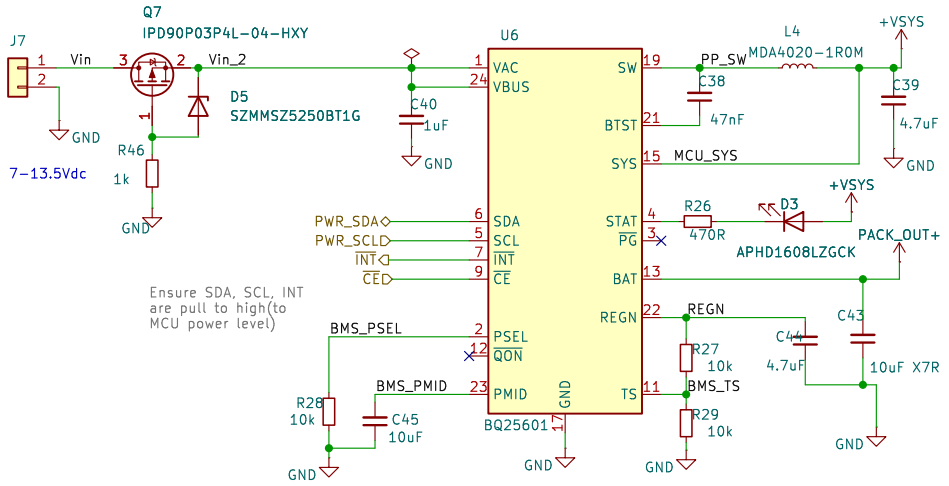
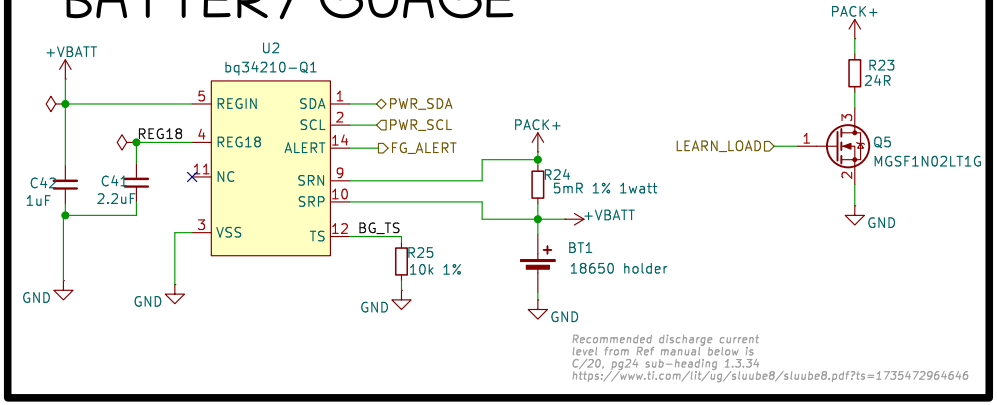
STATUS:	Designer: Hassan Omotoba	
	Size: A4	Id: 4/12

[5] POWER CIRCUITRY

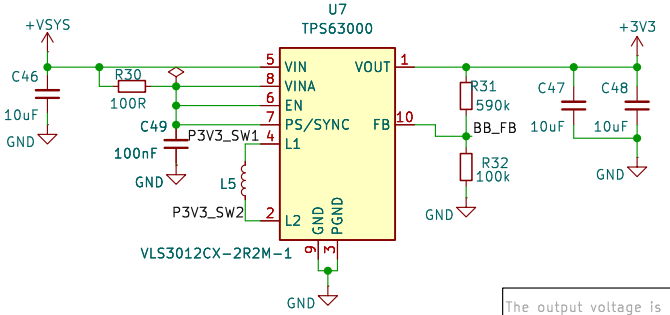
POWERPATH, BMS



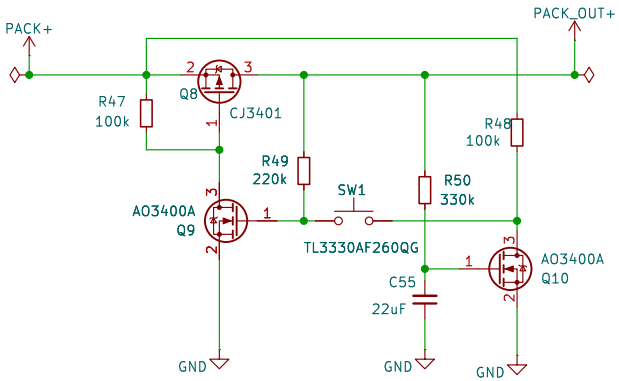
BATTERY GUAGE



+3V3 BUCK-BOOST



PUSH-ON/OFF



HGO TECHNOLOGIES

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File: power_cct.kicad_sch	Sheet: /Architectural_diagram/Power_circuitry/
STATUS:	Designer: Hassan Omotoba
Size: A4	Id: 5/12

[6] GSM, GPRS AND GPS

U1B

SIM7600G

+GSM_PWR

[3.8V]

C2 100nF X7R 16V, C3 100nF X7R 16V, C5 100nF X7R 16V, C6 100nF X7R 16V

U1A
SIM7600G

C1 100nF X7R 16V

R1 0R 1%

RESET is internally pulled HIGH via 40k resistor

PWRKEY To GND via 0R resistor set to automatic Power ON, It is internally pulled high via diode

LOGIC TRANSLATOR

Q1 3416 — R3 4.7k, R2 4.7k — GSM_TXD

Q2 3416 — R13 4.7k, R10 4.7k — GSM_RXD

uSIM CONNECTOR

R4 22R 1%, R5 22R 1%, R6 22R 1%

SIM_IO, SIM_RST, SIM_CLK, USIM_VDD

C7 DNP, C8 DNP, C9 DNP

C10 100nF X7R 16V, C11 33pF X7R 16V

J10 SIM8060-6-1-14-00-A

CELLULAR ANTENNA

J4 UFL — R14 0R 1%, R15 0R 1% — C4 DNP, C16 DNP — MAIN_ANT

GPS ACTIVE ANTENNA

J5 UFL — R18 10R 1% — L1 47nH — C17 33pF, C35 33pF — L3 DNP, L2 DNP

AUX ANTENNA

J6 UFL — R21 0R 1%, R22 0R 1% — C36 DNP, C37 DNP

MAIN_ANT, GPS_ANT, AUX_ANT

GSM LOAD SWITCH

U11 TPS22810DRV

+VSYS, GSM_PWR_EN, R45 10K 1%, C54 ?F X7R 16V, C53 ?F X7R 16V, +GSM_PWR

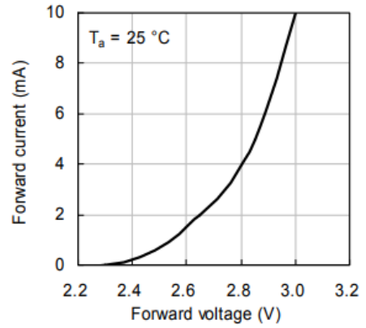
STATUS INDICATOR

D1 APHD1608LZGCK — R16 470R 1% — GSM_RDY — STATUS, R20 1.8k 1% — Q4 MMBT2222A

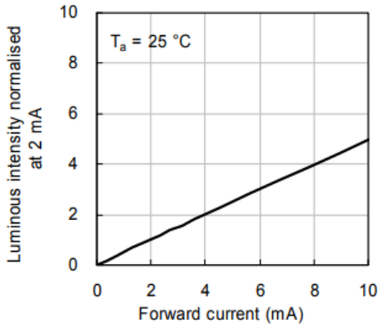
NET STATUS INDICATOR

D2 APHD1608LZGCK — R17 470R 1% — NET_LIGHT, R19 1.8k 1% — Q3 MMBT2222A

Forward Current vs. Forward Voltage



Luminous Intensity vs. Forward Current



HGO TECHNOLOGIES

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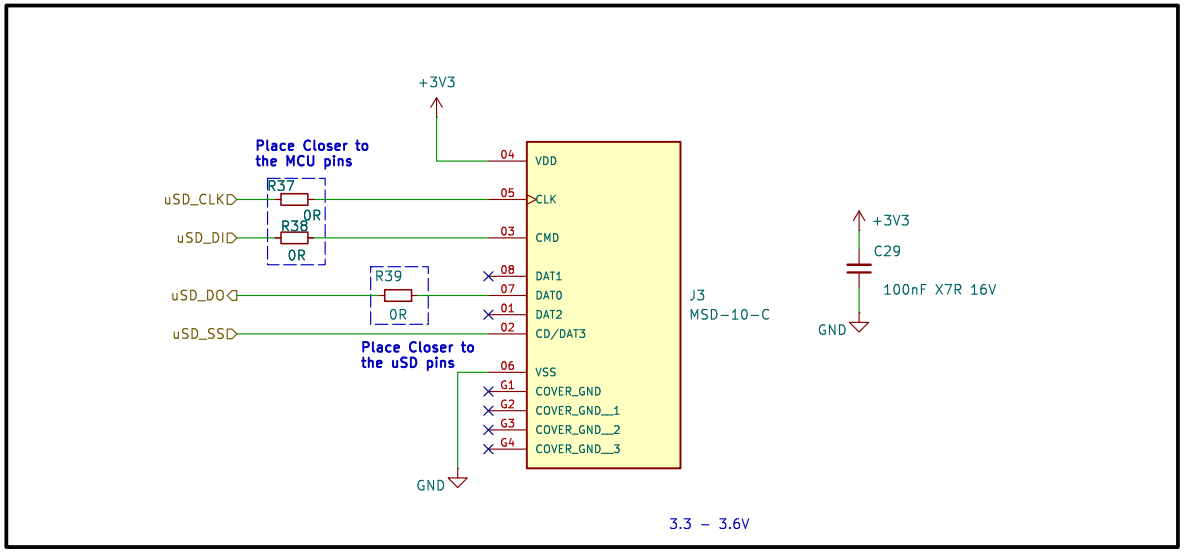
File: gsm_gps_circuitry.kicad_sch	Sheet: /Architectural_diagram/GSM_GPS_CIRCUITRY/
STATUS:	Designer: Hassan Omotoba
Size: A3	Id: 6/12

[7] MICRO-SD CARD CONNECTOR



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Title: TraxXturE		
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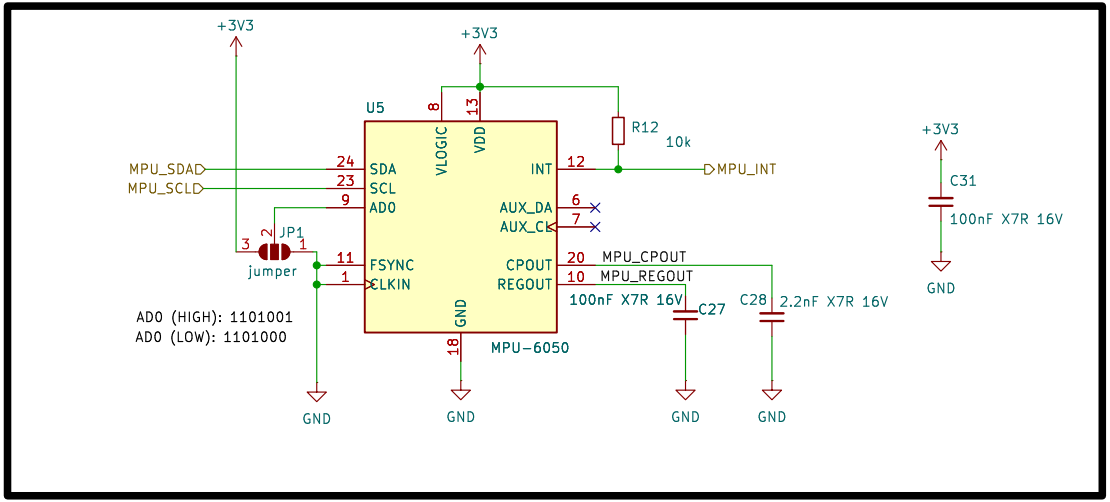
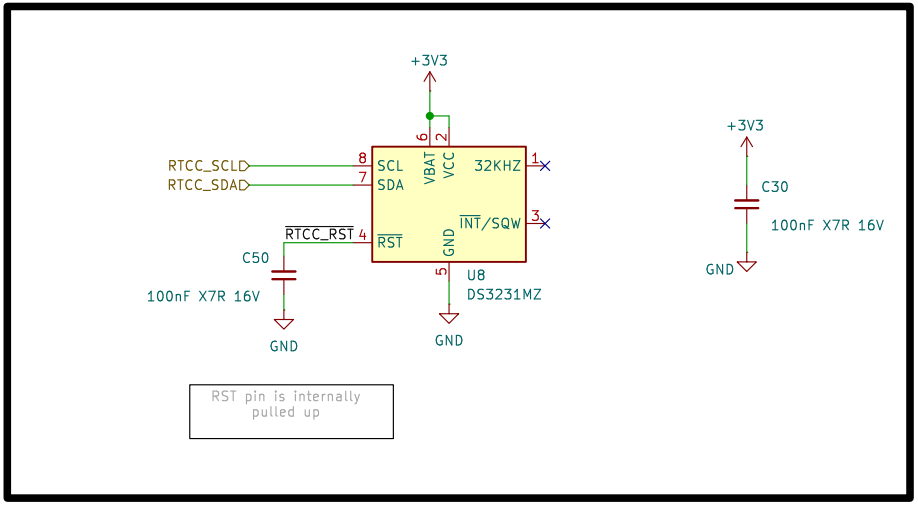
STATUS:	Designer: Hassan Omotoba	
	Size: A5	Id: 7/12

[8] IMU CIRCUITRY



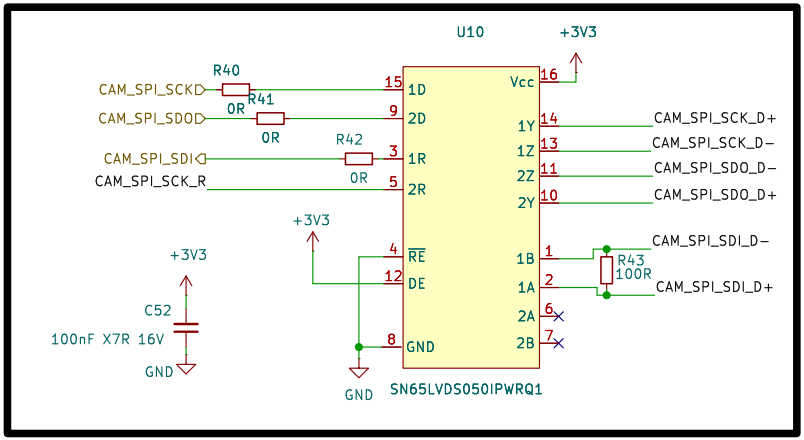
HGO TECHNOLOGIES		
Title: TraxXturE		
File: IMU_sensor.kicad_sch	Sheet: /Architectural_diagram/IMU_Sensor/	
STATUS:	Designer: Hassan Omotoba	
	Size: A5	Id: 8/12

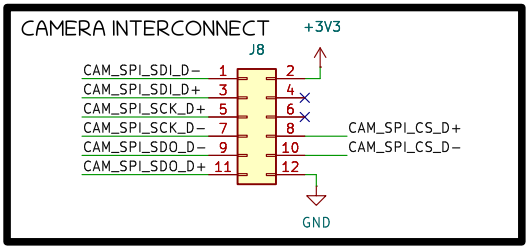
[9] RTCC

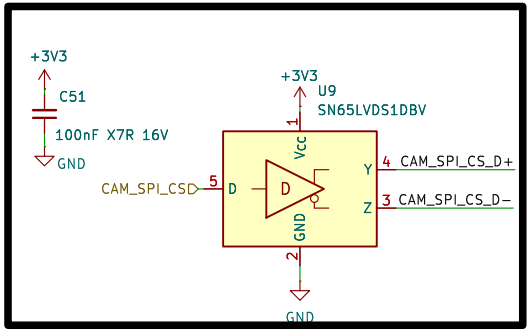


HGO TECHNOLOGIES		
Title:	***TraxXturE***	
File: rtcc_cct.kicad_sch	Sheet: /Architectural_diagram/RTCC_Circuitry/	
STATUS:	Designer: Hassan Omotoba	
	Size: A5	Id: 9/12

[10] Arducam B0434







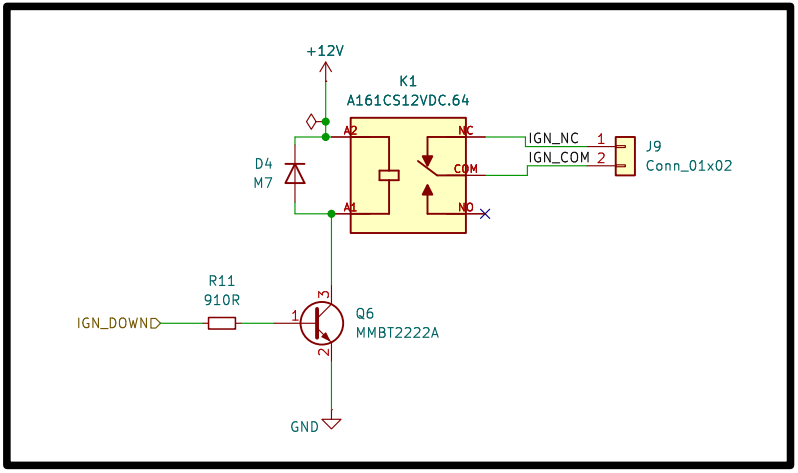
https://www.arducam.com/docs/arducam-mega/arducam-mega-getting-started/packs/example/PICO.html
https://docs.arducam.com/Arduino-SPI-camera/MEGA-SPI/MEGA-Quick-Start-Guide/

SPI converted to Low voltage differential Signal, LVDS to ensure signal intergrity at longer length (3metre)

HGO TECHNOLOGIES

Title:	**TraxXturE**
File: camera_pinouts.kicad_sch	Sheet: /Architectural_diagram/camera_pin_out/
STATUS:	Designer: Hassan Omotoba
Size: A5	Id: 10/12

[11] IGNITION SHUTDOWN CIRCUITRY



HGO TECHNOLOGIES		
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STATUS:	Designer: Hassan Omotoba	
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