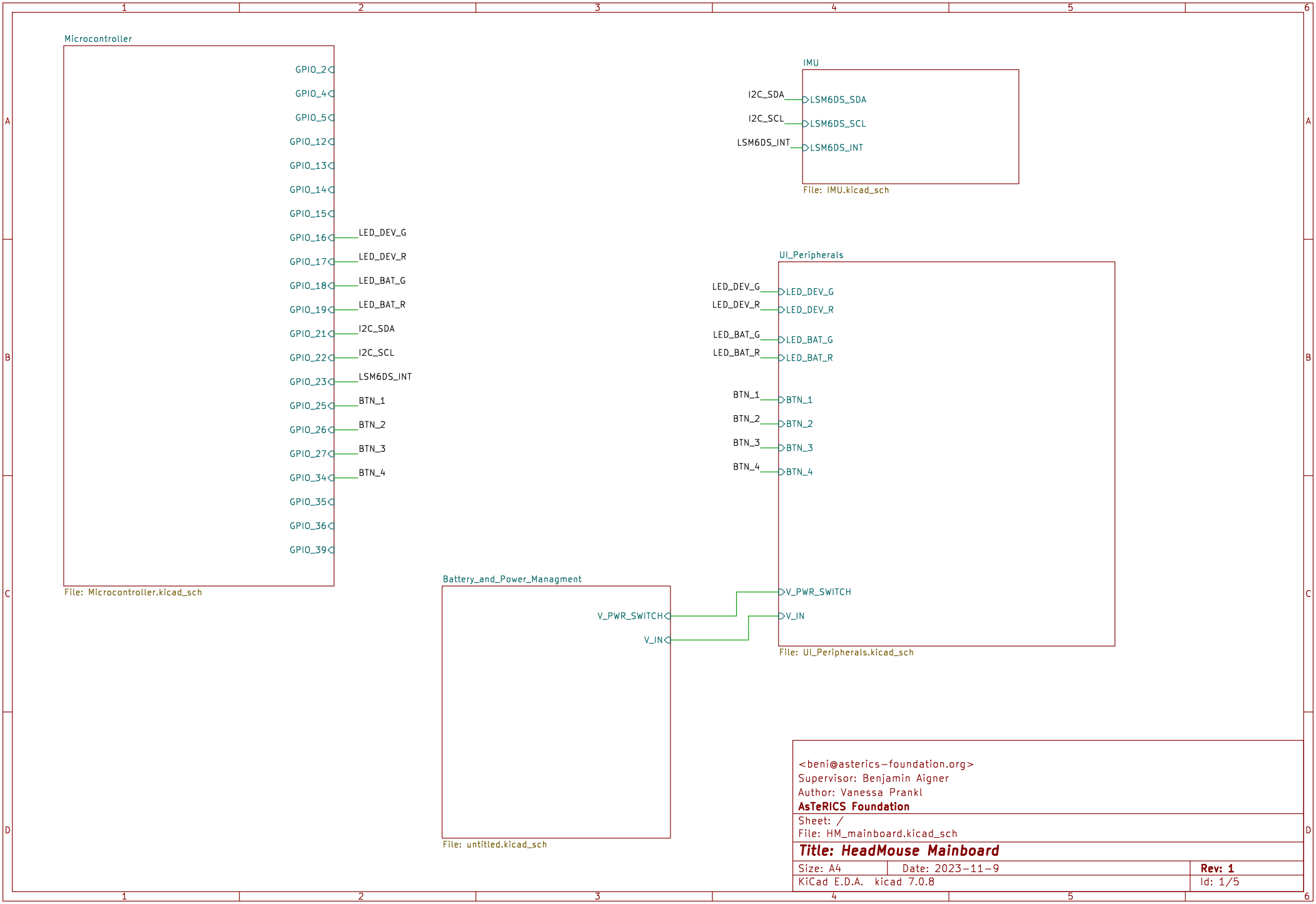
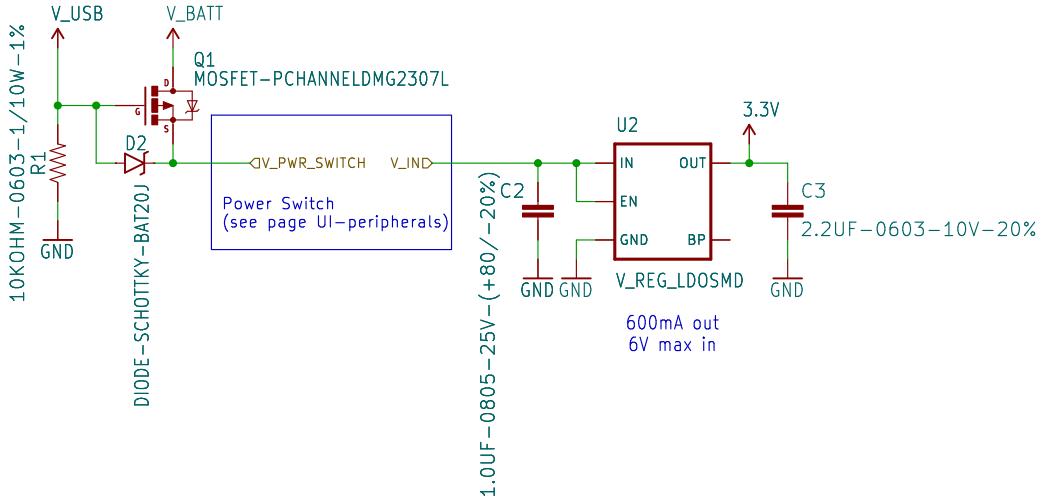
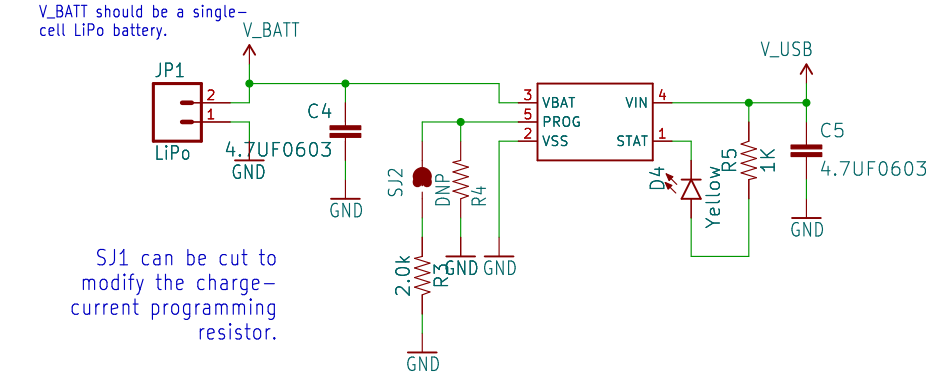

Microcontroller
GPIO_2
GPIO_4
GPIO_5
GPIO_12
GPIO_13
GPIO_14
GPIO_15
GPIO_16
GPIO_17
GPIO_18
GPIO_19
GPIO_21
GPIO_22
GPIO_23
GPIO_25
GPIO_26
GPIO_27
GPIO_34
GPIO_35
GPIO_36
GPIO_39
LED_DEV_G
LED_DEV_R
LED_BAT_G
LED_BAT_R
I2C_SDA
I2C_SCL
LSM6DS_INT
BTN_1
BTN_2
BTN_3
BTN_4
File: Microcontroller.kicad_sch
IMU
I2C_SDA
I2C_SCL
LSM6DS_INT
LSM6DS_SDA
LSM6DS_SCL
LSM6DS_INT
File: IMU.kicad_sch
UI_Peripherals
LED_DEV_G
LED_DEV_R
LED_BAT_G
LED_BAT_R
BTN_1
BTN_2
BTN_3
BTN_4
V_PWR_SWITCH
V_IN
File: UI_Peripherals.kicad_sch
Battery_and_Power_Managment
V_PWR_SWITCH
V_IN
File: untitled.kicad_sch
<beni@asterics-foundation.org>
Supervisor: Benjamin Aigner
Author: Vanessa Prankl
AsTeRICS Foundation
Sheet: /
File: HM_mainboard.kicad_sch
Title: HeadMouse Mainboard
Size: A4
Date: 2023-11-9
Rev: 1
KiCad E.D.A. kicad 7.0.8
Id: 1/5

Voltage Regulator



Lithium-Polymer Battery Charger (1-cell)



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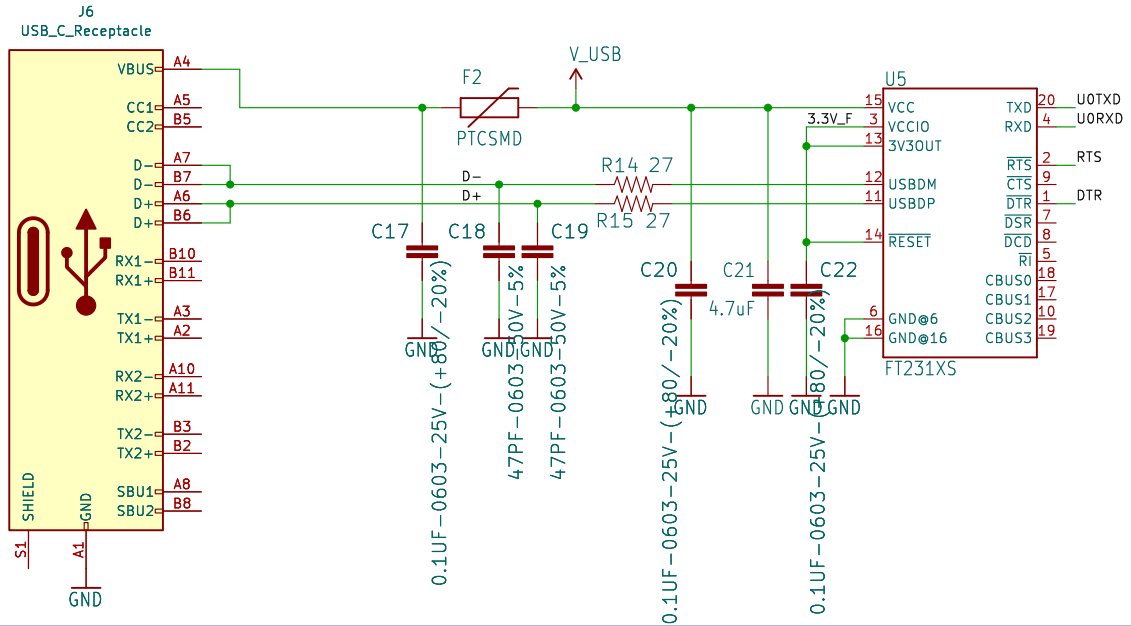
Title: Battery and Power Management		
Size: A4	Date:	**Rev: V1**
KiCad E.D.A. kicad 7.0.8		Id: 2/5

USBC-to-UART Converter

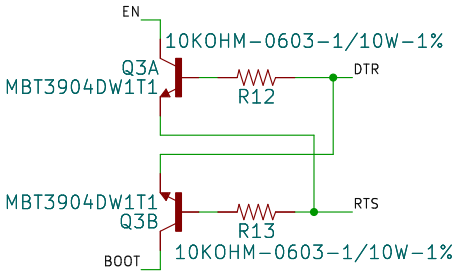


Auto-Reset

Boot Mode Configuration

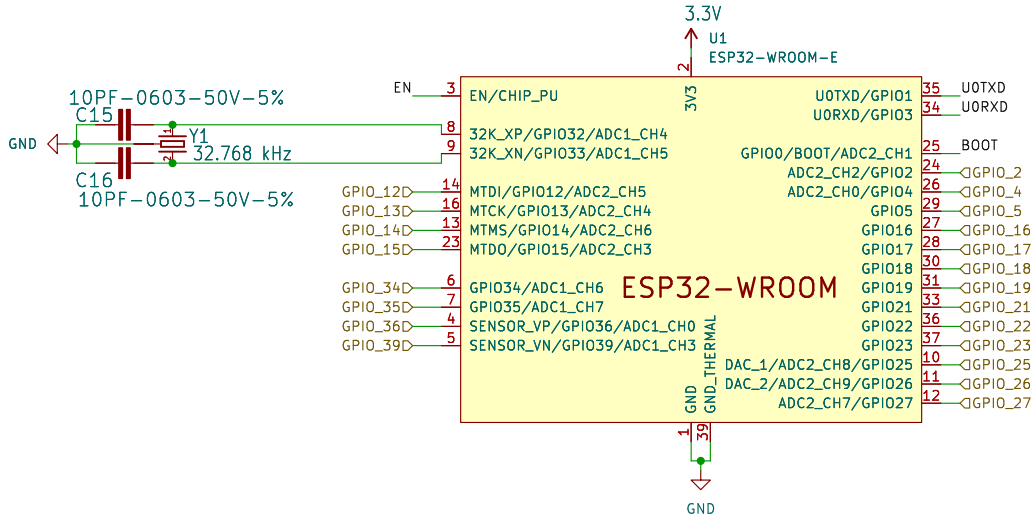
Pin	Default	Boot	Download
GPIO0	1	1	0
U0TXD	1	1	x
GPIO2	0	x	0
GPIO4	0	x	x
MTDO	1	x	x
GPIO5	1	1	x

If U0TXD, GPIO2, GPIO5 are floating,
GPIO0 determines boot mode

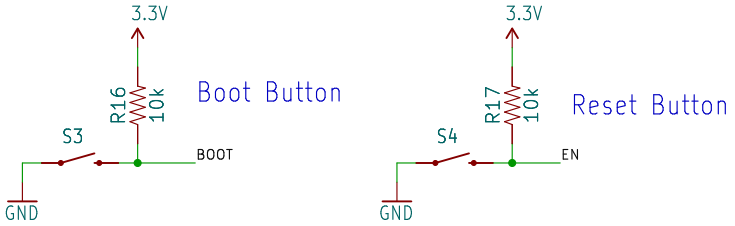


If DTR is LOW, toggling RTS from HIGH to LOW resets to run mode.
If RTS is HIGH, toggling DTR from LOW to HIGH resets to bootloader.

Microcontroller and Bluetooth Module



Manual-Reset



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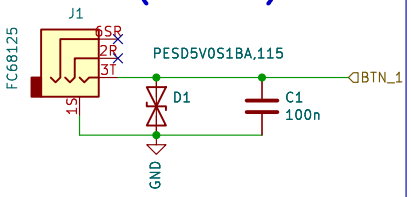
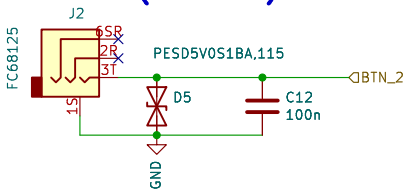
File: Microcontroller.kicad_sch		
Title: Microcontroller		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.8		Id: 3/5

Button 1 (external)



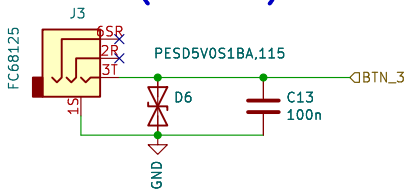
Jacks (same as on FABI)
Cliff FC68125
RS Pro 805-1655
Lumberg 1503 19
Aliexpress: "PJ321C" hard to find, here is a link:
www.aliexpress.com/item/32665420060.html
Note: might not fit that well!

Button 2 (external)



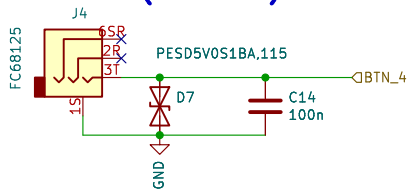
Jacks (same as on FABI)
Cliff FC68125
RS Pro 805-1655
Lumberg 1503 19
Aliexpress: "PJ321C" hard to find, here is a link:
www.aliexpress.com/item/32665420060.html
Note: might not fit that well!

Button 3 (external)



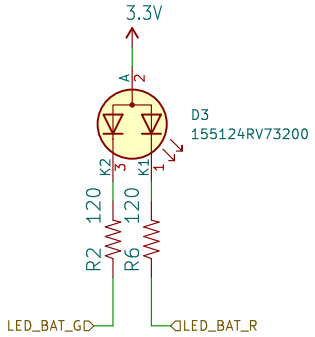
Jacks (same as on FABI)
Cliff FC68125
RS Pro 805-1655
Lumberg 1503 19
Aliexpress: "PJ321C" hard to find, here is a link:
www.aliexpress.com/item/32665420060.html
Note: might not fit that well!

Button 4 (external)

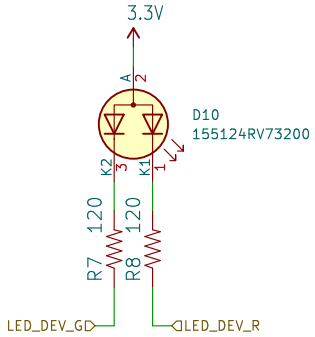


Jacks (same as on FABI)
Cliff FC68125
RS Pro 805-1655
Lumberg 1503 19
Aliexpress: "PJ321C" hard to find, here is a link:
www.aliexpress.com/item/32665420060.html
Note: might not fit that well!

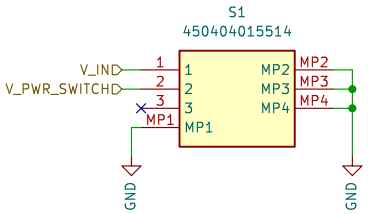
Battery Status LED (bi-color red-green)



Device Status LED (bi-color red-green)



Power Switch



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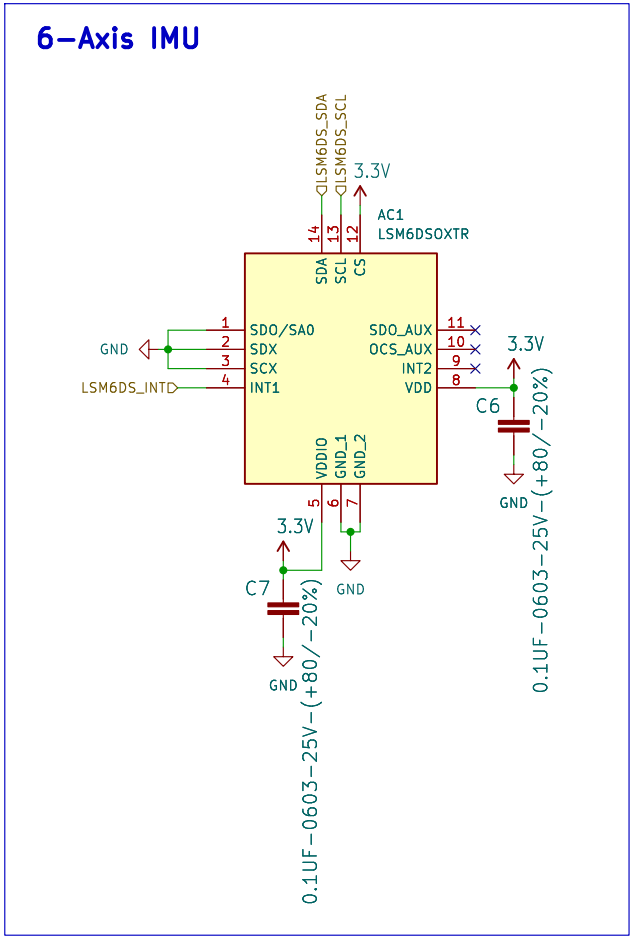
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.8		Id: 4/5



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Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.8		Id: 5/5