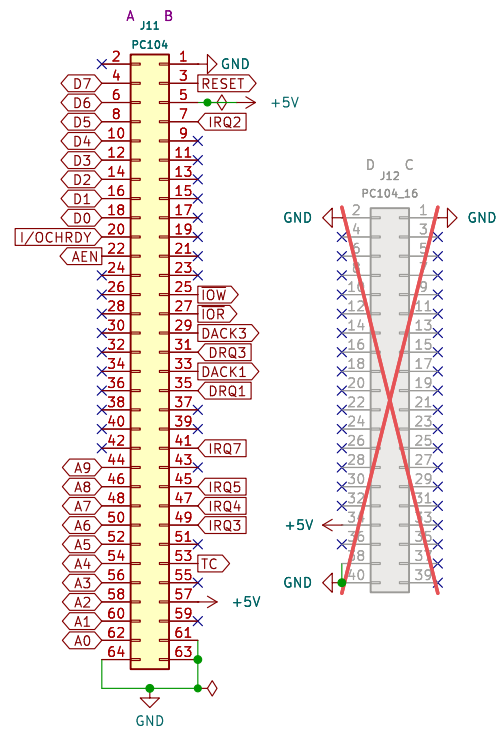
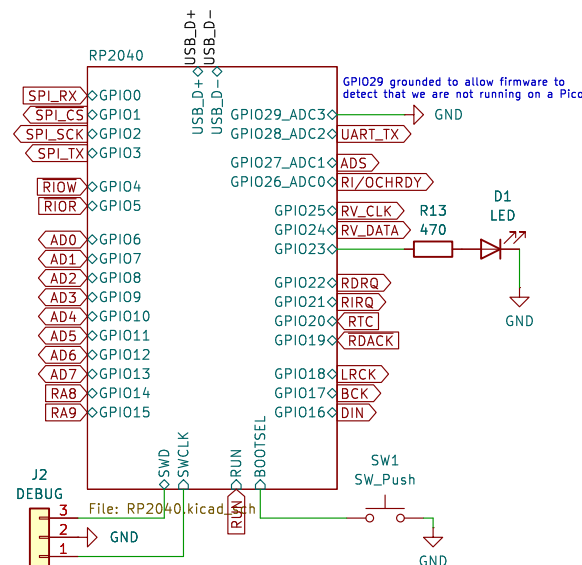


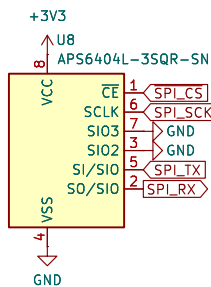
## PC/104



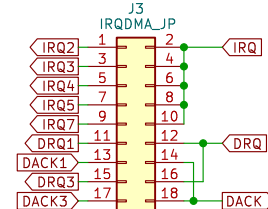
## RASPBERRY PI PICO



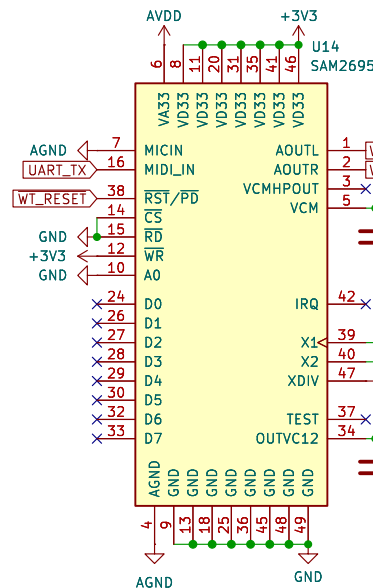
## SAMPLE RAM



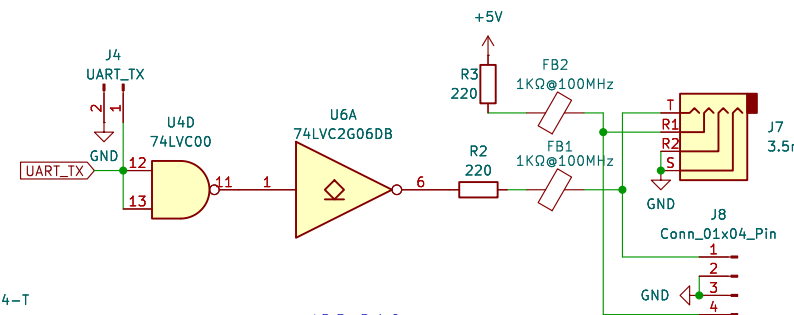
## IRQ/DMA SETTING



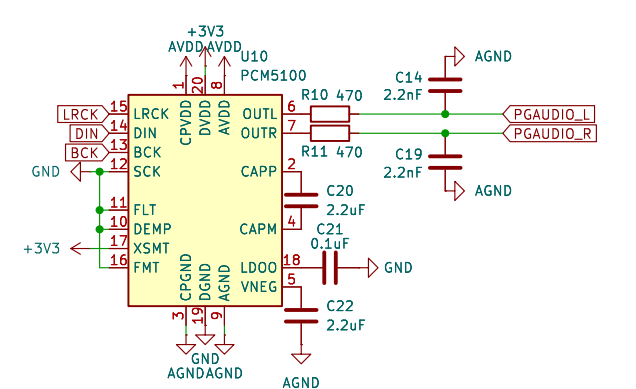
## MIDI



## MIDI/DEBUG OUT

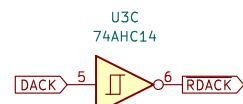


## I2S DAC

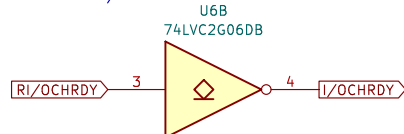


## DACK INVERT

Saves PIO instructions due to JMP limitations

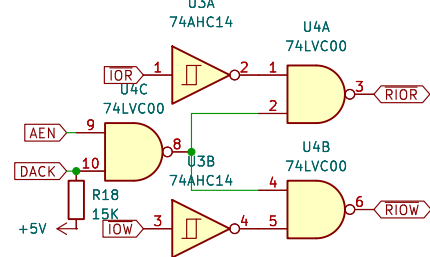


## I/OCHRDY OPEN DRAIN



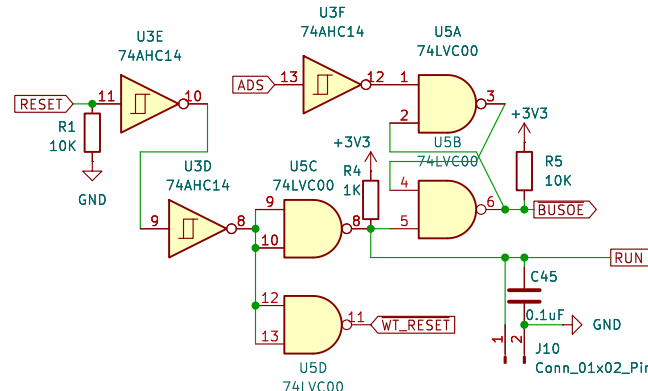
## AEN IO MASKING

Disables IOR and IOW signals when other DMA in system happens

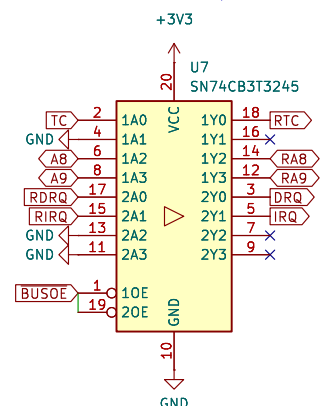


## RESET CIRCUIT

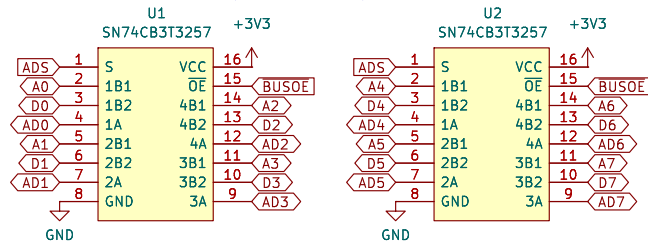
Latches BUSOE high after ADS is toggled for the first time, sets low on RESET



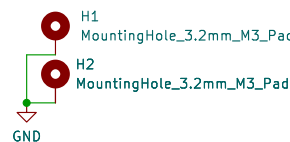
## MISC LEVEL SHIFT/BUFFER



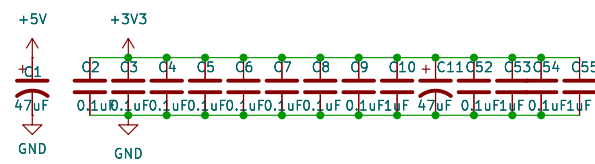
## ADDR/DATA MUX/DEMUX



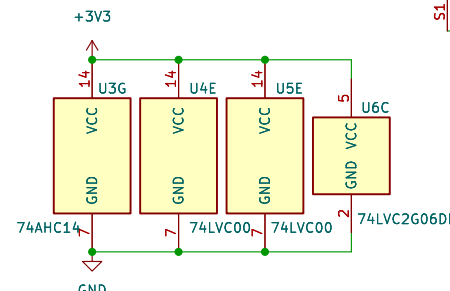
## MOUNTING



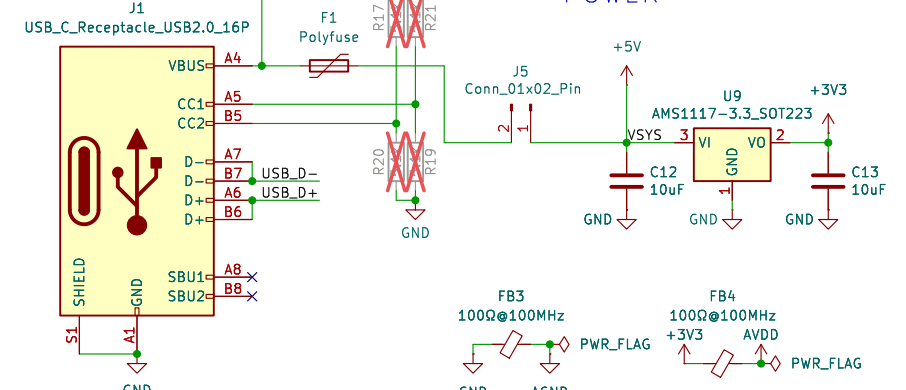
## DECOUPLING CAPS



## 74LVCxx LOGIC PWR



## POWER



Based on PicoGUS v2.0 design by Ian Scott

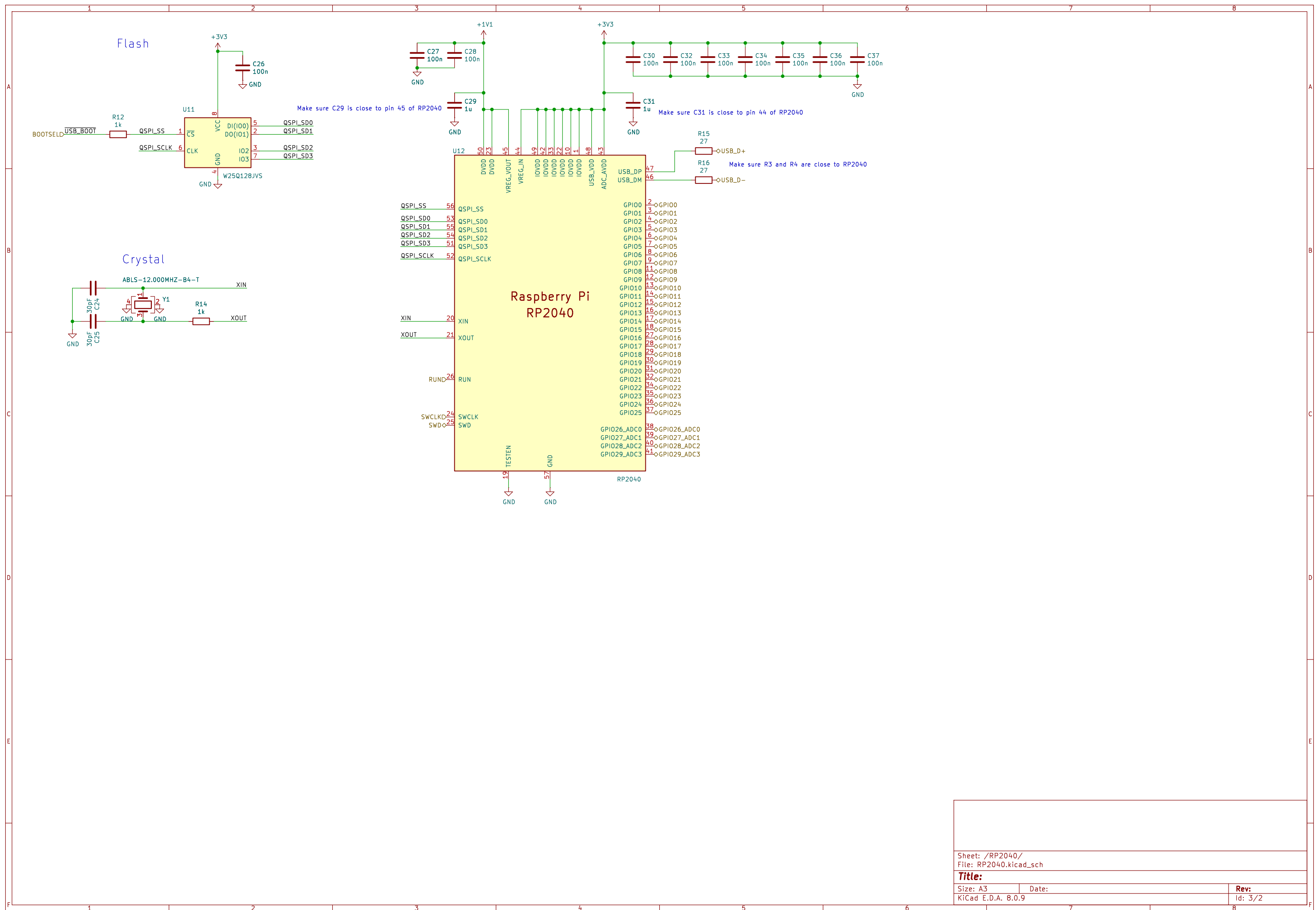
Sheet: /  
File: picogus104.kicad\_sch

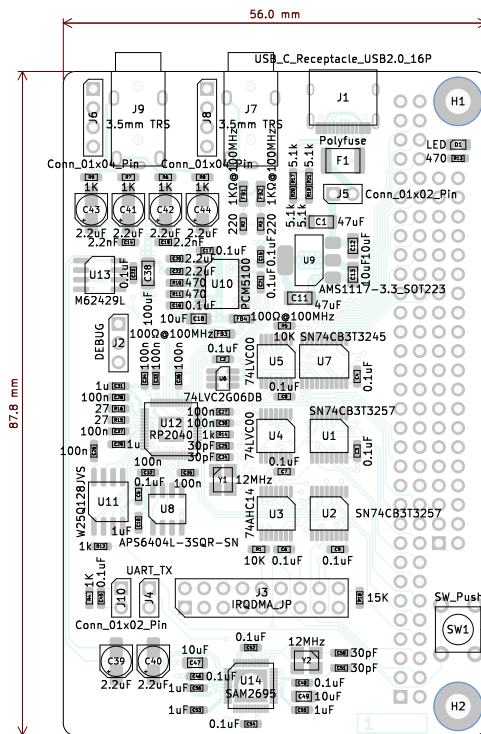
Title: PicoGUS/104


Size: A3 Date: 2024-12-24

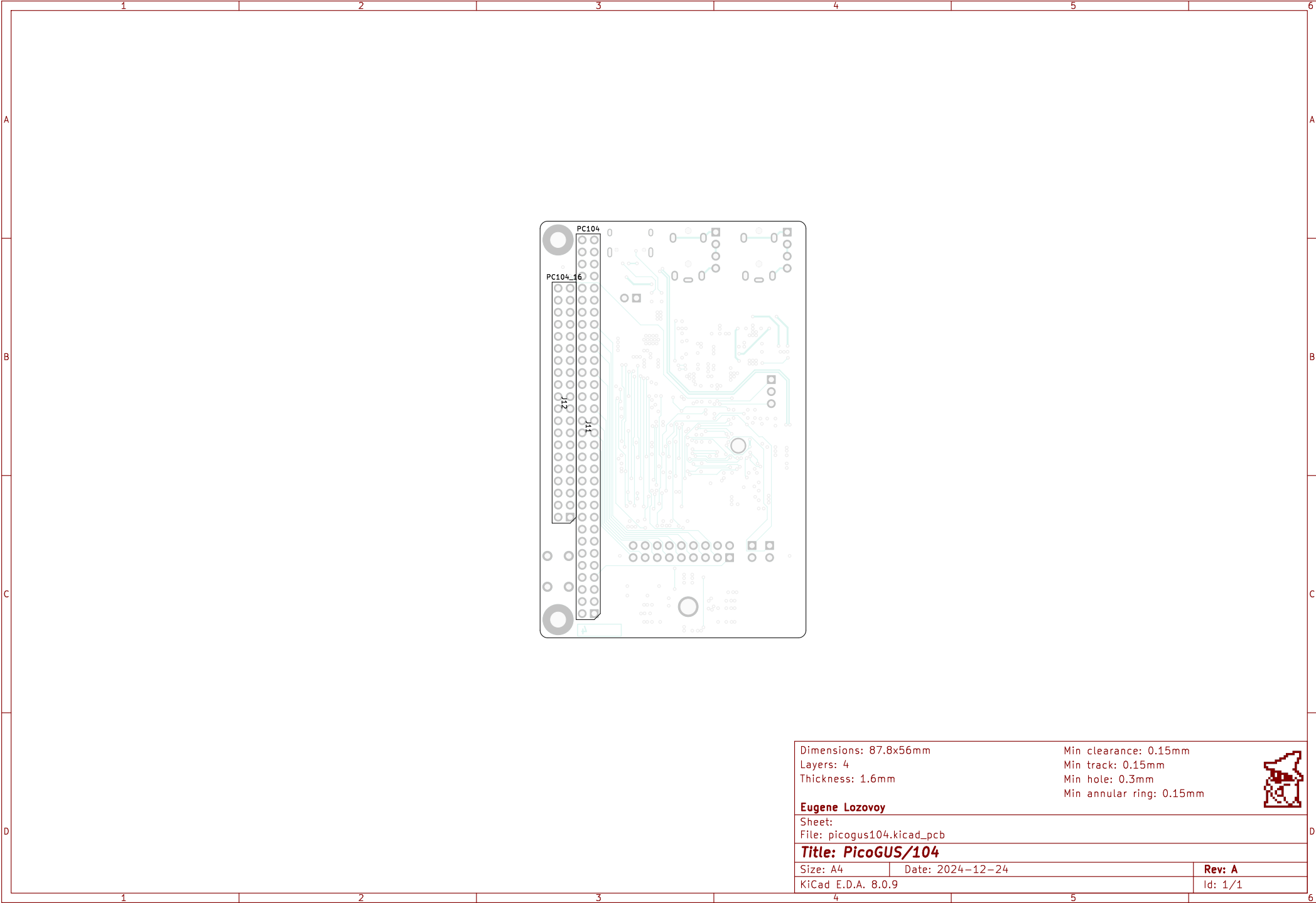
KiCad E.D.A. 8.0.9

Rev: A  
Id: 1/2





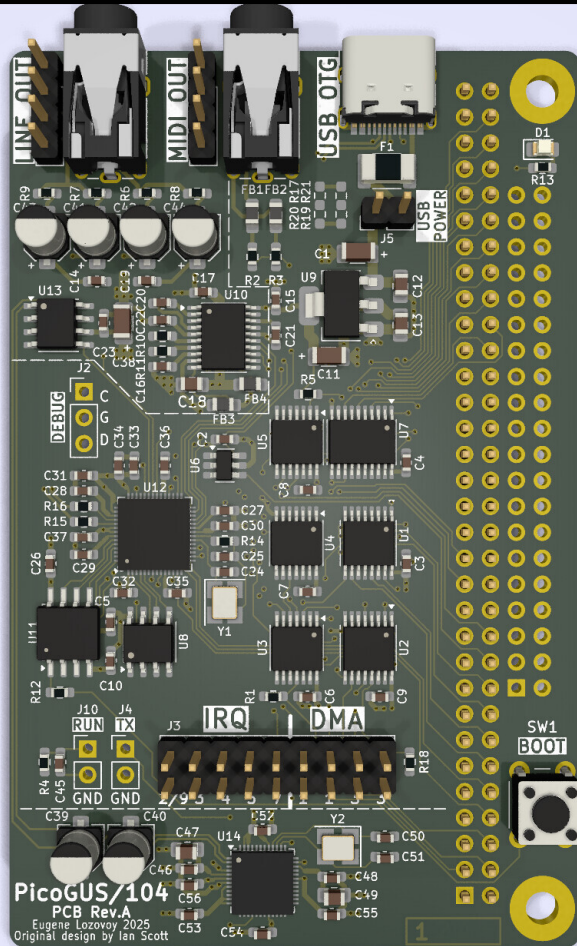
Dimensions: 87.8x56mm		Min clearance: 0.15mm	
Layers: 4		Min track: 0.15mm	
Thickness: 1.6mm		Min hole: 0.3mm	
		Min annular ring: 0.15mm	
<b>Eugene Lozovoy</b>			
Sheet:			
File: picogus104.kicad_pcb			
<b>Title: PicoGUS/104</b>			
Size: A4	Date: 2024-12-24		Rev: A
KiCad E.D.A. 8.0.9			Id: 1/1



# Bill Of Materials

References	Value	Footprint	Qty
C1 C11	47uF	Capacitor_SMD:C_1206_3216Metric	2
C2 C3 C4 C5 C6 C7 C8 C9 C15 C16 C17 C21 C23 C45 C46 C48 C52 C54	0.1uF	Capacitor_SMD:C_0603_1608Metric_Pad1.0 8x0.95mm_HandSolder	18
C10 C53 C55 C56	1uF	Capacitor_SMD:C_0603_1608Metric_Pad1.0 8x0.95mm_HandSolder	4
C12 C13 C18 C47 C49	10uF	Capacitor_SMD:C_0805_2012Metric_Pad1.1 8x1.45mm_HandSolder	5
C14 C19	2.2nF	Capacitor_SMD:C_0603_1608Metric_Pad1.0 8x0.95mm_HandSolder	2
C20 C22	2.2uF	Capacitor_SMD:C_0603_1608Metric_Pad1.0 8x0.95mm_HandSolder	2
C38	100uF	Capacitor_SMD:C_1206_3216Metric	1
C39 C40 C41 C42 C43 C44	2.2uF	Capacitor_SMD:CP_Elec_4x5.4	6
C50 C51 C24 C25	30pF	Capacitor_SMD:C_0603_1608Metric_Pad1.0 8x0.95mm_HandSolder	4
D1	LED	LED_SMD:LED_0805_2012Metric_Pad1.15x 1.40mm_HandSolder	1
F1	Polyfuse	Fuse:Fuse_1812_4532Metric_Pad1.30x3.40 mm_HandSolder	1
FB1 FB2	1K $\Omega$ @100MHz	Inductor_SMD:L_0805_2012Metric_Pad1.05 x1.20mm_HandSolder	2
FB3 FB4	100 $\Omega$ @100MHz	Inductor_SMD:L_0805_2012Metric_Pad1.05 x1.20mm_HandSolder	2
J1	USB_C_Receptacle_USB2.0_16P	Connector_USB:USB_C_Receptacle_HRO_ TYPE-C-31-M-12	1
J3	IRQDMA_JP	Connector_PinHeader_2.54mm:PinHeader_2 x09_P2.54mm_Vertical	1
J6 J8	Conn_01x04_Pin	Connector_PinHeader_2.54mm:PinHeader_1 x04_P2.54mm_Vertical	2
J7 J9	3.5mm TRS	my:PJ-322	2
J11	PC104	Connector_PinHeader_2.54mm:PinHeader_2 x32_P2.54mm_Vertical	1
R1 R5	10K	Resistor_SMD:R_0603_1608Metric_Pad0.98 x0.95mm_HandSolder	2
R2 R3	220	Resistor_SMD:R_0603_1608Metric_Pad0.98 x0.95mm_HandSolder	2
R4 R6 R7 R8 R9	1K	Resistor_SMD:R_0603_1608Metric_Pad0.98 x0.95mm_HandSolder	5
R10 R11 R13	470	Resistor_SMD:R_0603_1608Metric_Pad0.98 x0.95mm_HandSolder	3
R18	15K	Resistor_SMD:R_0603_1608Metric_Pad0.98 x0.95mm_HandSolder	1
SW1	SW_Push	Button_Switch_THT:SW_PUSH_6mm	1
U1 U2	SN74CB3T3257	Package_SO:TSSOP-16_4.4x5mm_P0.65m m	2
U3	74AHC14	Package_SO:TSSOP-14_4.4x5mm_P0.65m m	1

U4 U5	74LVC00	Package_SO:TSSOP-14_4.4x5mm_P0.65mm	2
U6	74LVC2G06DB	Package_TO_SOT_SMD:SOT-23-6_Handsoldering	1
U7	SN74CB3T3245	Package_SO:TSSOP-20_4.4x6.5mm_P0.65mm	1
U8	APS6404L-3SQR-SN	Package_SO:SOIC-8_3.9x4.9mm_P1.27mm	1
U9	AMS1117-3.3_SOT223	Package_TO_SOT_SMD:SOT-223-3_TabPin2	1
U10	PCM5100	Package_SO:TSSOP-20_4.4x6.5mm_P0.65mm	1
U13	M62429L	Package_SO:SOIC-8_3.9x4.9mm_P1.27mm	1
U14	SAM2695	my:QFN-48-1EP_6x6mm_P0.4mm_EP4.2x4.2mm	1
Y2 Y1	ABLS-12.000MHZ-B4-T	my:Crystal_SMD_3225-4Pin_3.2x2.5mm_HandSoldering	2
C26 C27 C28 C30 C32 C33 C34 C35 C36 C37	100n	Capacitor_SMD:C_0603_1608Metric_Pad1.08x0.95mm_HandSolder	10
C29 C31	1u	Capacitor_SMD:C_0603_1608Metric_Pad1.08x0.95mm_HandSolder	2
R12 R14	1k	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	2
R15 R16	27	Resistor_SMD:R_0603_1608Metric_Pad0.98x0.95mm_HandSolder	2
U11	W25Q128JVS	my:SOIC-8_5.23x5.23mm_P1.27mm-LONG	1
U12	RP2040	my:QFN-56-1EP_7x7mm_P0.4mm_EP3.2x3.2mm	1



PicoGUS/104

PCB Rev.A

Eugene Lozovoy 2025  
Original design by Ian Scott

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