

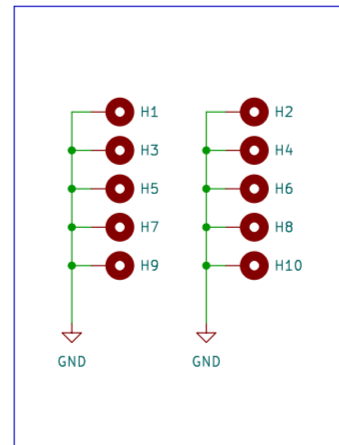
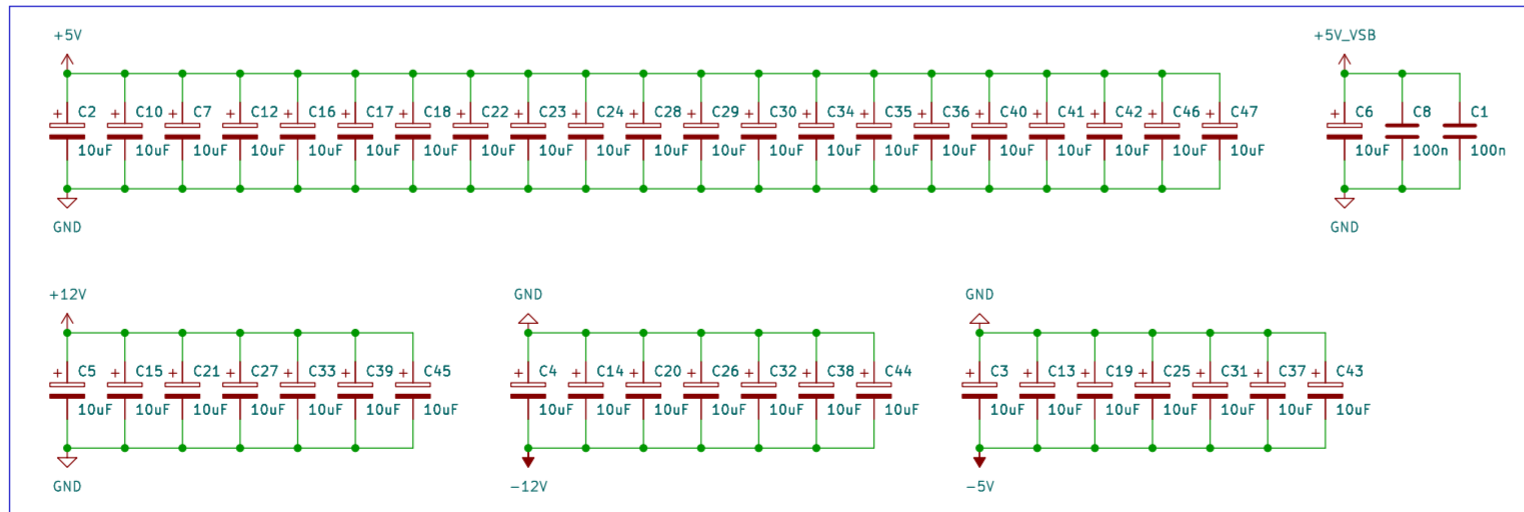
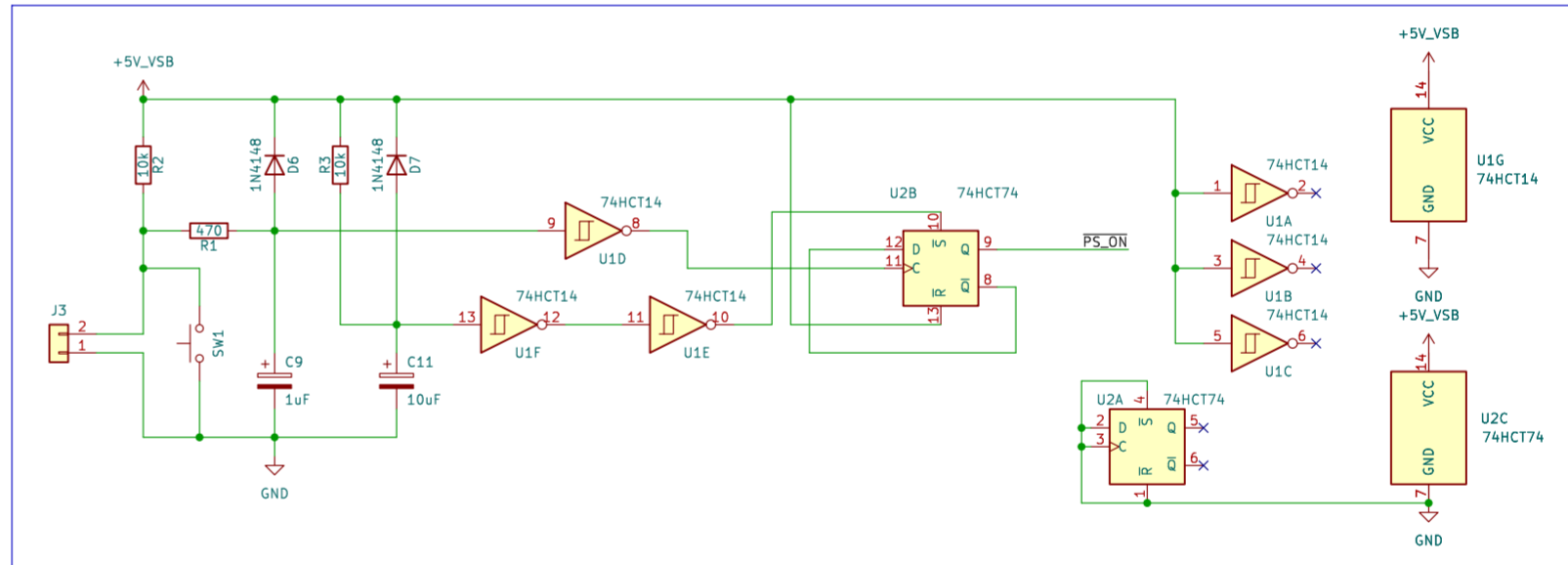
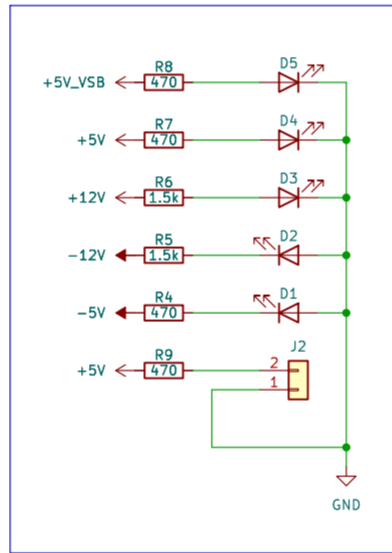
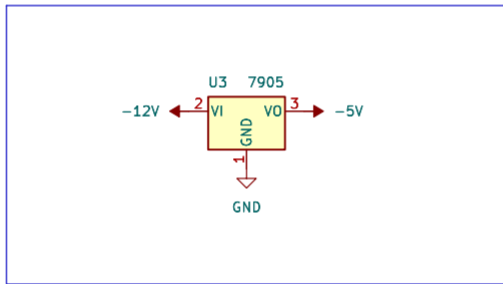
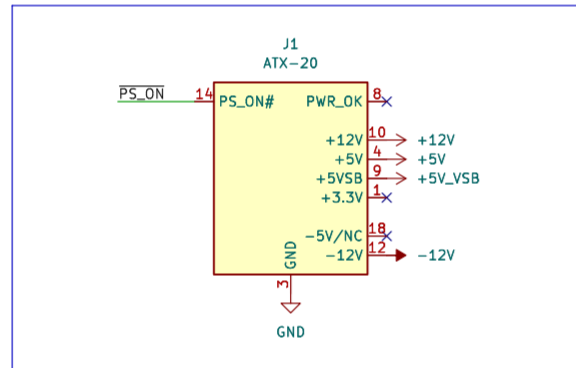
Diagram illustrating the internal structure of a 16-bit parallel adder, showing four identical 4-bit adder blocks (labeled 1, 2, 3, and 4) connected in parallel. Each block contains a 4-bit adder core (labeled 1, 2, 3, and 4) and associated control logic (labeled 1, 2, 3, and 4).

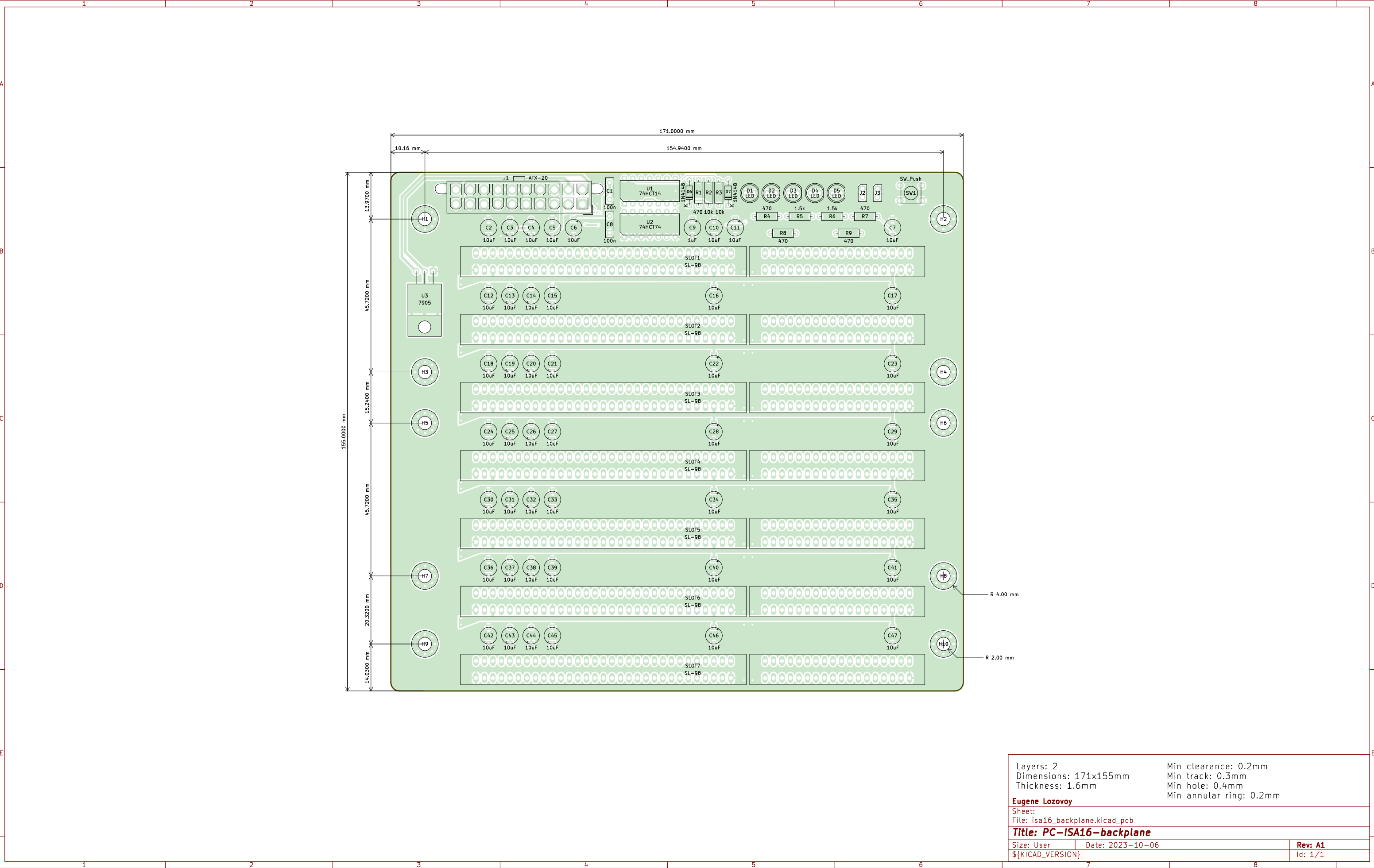
The diagram shows the internal structure of a 16-bit parallel adder, composed of four identical 4-bit adder blocks (labeled 1, 2, 3, and 4) connected in parallel. Each block contains a 4-bit adder core (labeled 1, 2, 3, and 4) and associated control logic (labeled 1, 2, 3, and 4).

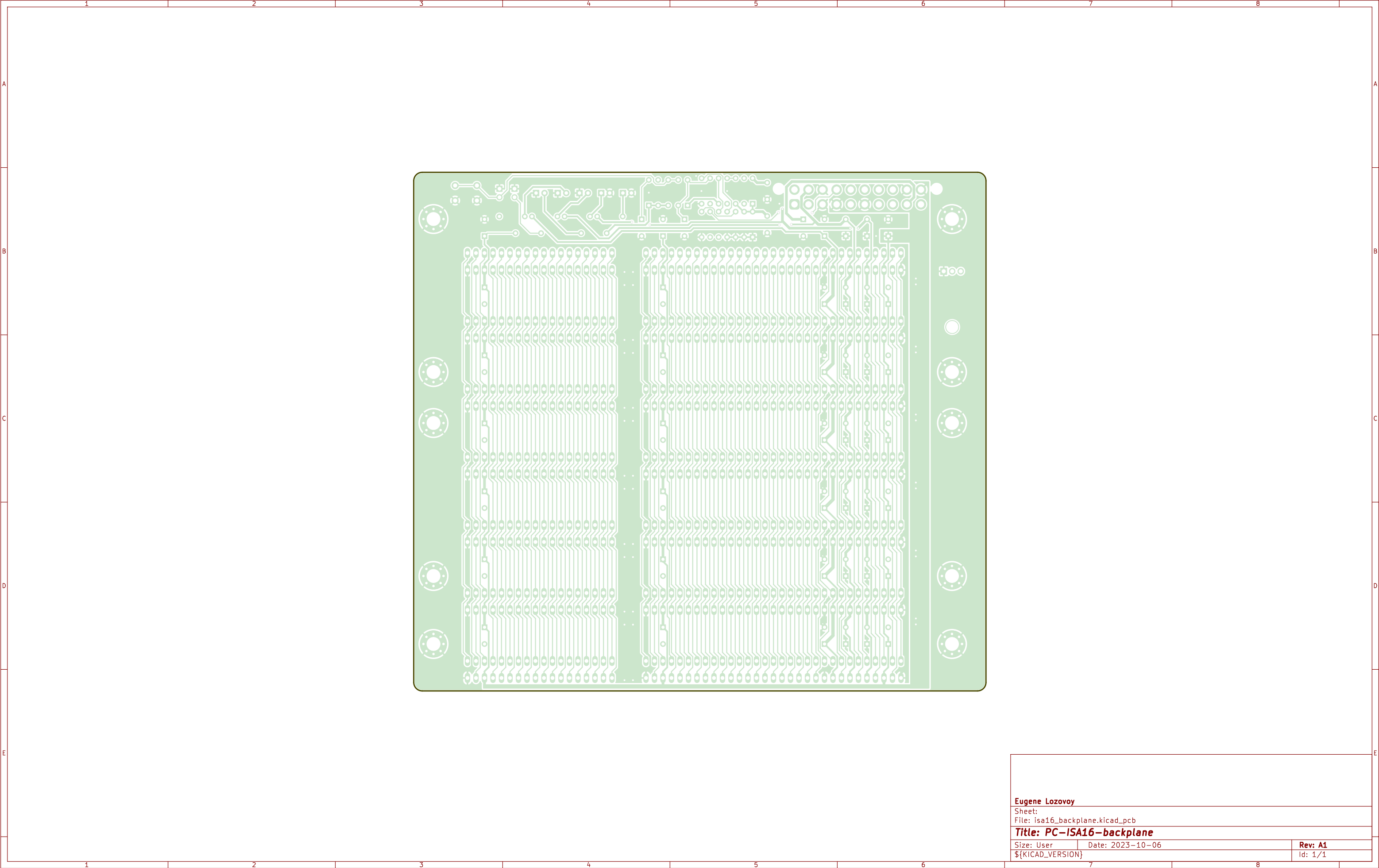
The 4-bit adder core (labeled 1, 2, 3, and 4) consists of a 4-bit adder (labeled 1, 2, 3, and 4) and a 4-bit register (labeled 1, 2, 3, and 4). The 4-bit adder is implemented using a 4-bit ripple-carry adder (labeled 1, 2, 3, and 4) and a 4-bit carry-in (labeled 1, 2, 3, and 4). The 4-bit register is implemented using a 4-bit D flip-flop (labeled 1, 2, 3, and 4).

The control logic (labeled 1, 2, 3, and 4) consists of a 4-bit adder (labeled 1, 2, 3, and 4) and a 4-bit register (labeled 1, 2, 3, and 4). The 4-bit adder is implemented using a 4-bit ripple-carry adder (labeled 1, 2, 3, and 4) and a 4-bit carry-in (labeled 1, 2, 3, and 4). The 4-bit register is implemented using a 4-bit D flip-flop (labeled 1, 2, 3, and 4).

The diagram shows the internal structure of a 16-bit parallel adder, composed of four identical 4-bit adder blocks (labeled 1, 2, 3, and 4) connected in parallel. Each block contains a 4-bit adder core (labeled 1, 2, 3, and 4) and associated control logic (labeled 1, 2, 3, and 4).







Eugene Lozovoy		
Sheet:		
File: isa16_backplane.kicad_pcb		
Title: <b>PC-ISA16-backplane</b>		
Size: User	Date: 2023-10-06	Rev: <b>A1</b>
\${KICAD_VERSION}		Id: 1/1

# Bill Of Materials

References	Value	Footprint	Qty
C1 C8	100n	PCM_Capacitor_THT_AKL:C_Disc_D8.0mm_W2.5mm_P5.00mm	2
C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C2 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C3 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C4 C40 C41 C42 C43 C44 C45 C46 C47 C5 C6 C7	10uF	PCM_Capacitor_THT_AKL:CP_Radial_Tanta l_D5.0mm_P5.00mm	44
C9	1uF	PCM_Capacitor_THT_AKL:CP_Radial_Tanta l_D5.0mm_P5.00mm	1
D1 D2 D3 D4 D5	LED	LED_THT:LED_D5.0mm	5
D6 D7	1N4148	PCM_Diode_THT_AKL:D_DO-35_SOD27_P 7.62mm_Horizontal	2
J1	ATX-20	my:Conn_Power_ATX_20pin_4.4mm	1
J2 J3	Conn_01x02	Connector_PinHeader_2.54mm:PinHeader_1 x02_P2.54mm_Vertical	2
R1 R4 R7 R8 R9	470	PCM_Resistor_THT_AKL:R_Axial_DIN0207_ L6.3mm_D2.5mm_P7.62mm_Horizontal	5
R2 R3	10k	PCM_Resistor_THT_AKL:R_Axial_DIN0207_ L6.3mm_D2.5mm_P7.62mm_Horizontal	2
R5 R6	1.5k	PCM_Resistor_THT_AKL:R_Axial_DIN0207_ L6.3mm_D2.5mm_P7.62mm_Horizontal	2
SLOT1 SLOT2 SLOT3 SLOT4 SLOT5 SLOT6 SLOT7	SL-98	my:ISA16_Slot	7
SW1	SW_Push	Button_Switch_THT:SW_PUSH_6mm	1
U1	74HCT14	Package_DIP:DIP-14_W7.62mm	1
U2	74HCT74	Package_DIP:DIP-14_W7.62mm	1
U3	7905	my:TO-220-3_Horizontal_TabDownPin2	1

