myCPU Register 8 bits (LEFT) Rev: 7

Control BUS Connector

P2

HLT	1 2	RST
EO	3 4	SU
AO	5 6	AI
BO	7 8	BI
CO	9 10	CI
IO	11 12	II
/RST	13 14	FI
PO	15 16	PE
UN	17 18	OI
RO	19 20	RI
SO	21 22	SI
PI	23 24	MI
FC	25 26	FN
FV	27 28	FZ
CLK	29 30	/CLK
	31 32	

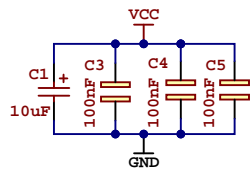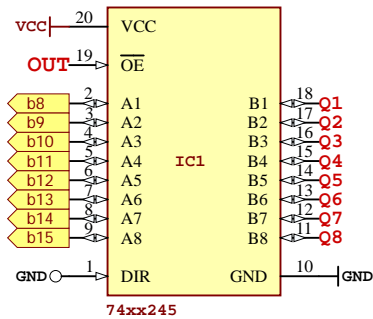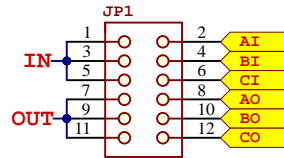VCC   GND
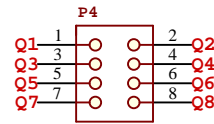
Register board setup. Setting up which are the active signals for the register. Define the register role A, B or C.

REGISTER SETUP

JP1

IN
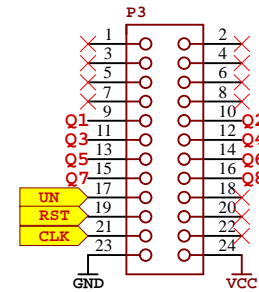
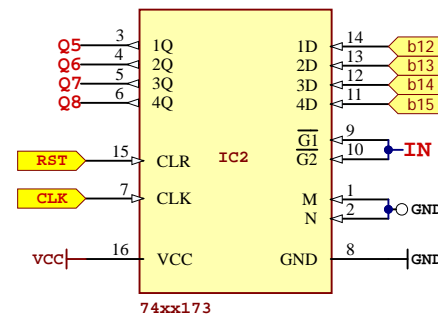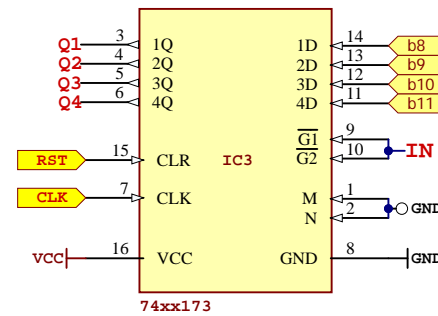|		
	1 2	AI
	3 4	BI
	5 6	CI
	7 8	AO
	9 10	BO
	11 12	CO

OUT

Direct Data OUT

P4

Q1	1 2	Q2
Q3	3 4	Q4
Q5	5 6	Q6
Q7	7 8	Q8

OUTPUT Connector

P3

	1 2	
	3 4	
	5 6	
	7 8	
Q1	9 10	Q2
Q3	11 12	Q4
Q5	13 14	Q6
Q7	15 16	Q8
	17 18	
UN	19 20	
RST	21 22	
CLK	23 24	

GND   VCC

Data BUS Connector

P1

b0	1 2	b1
b2	3 4	b3
b4	5 6	b5
b6	7 8	b7
b8	9 10	b9
b10	11 12	b11
b12	13 14	b13
b14	15 16	b15

IC1 — 74xx245

VCC 20 VCC
OUT 19 OE

b8	2	A1	B1 18 Q1
b9	3	A2	B2 17 Q2
b10	4	A3	B3 16 Q3
b11	5	A4	B4 15 Q4
b12	6	A5	B5 14 Q5
b13	7	A6	B6 13 Q6
b14	8	A7	B7 12 Q7
b15	9	A8	B8 11 Q8

GND 1 DIR   GND 10 GND

IC3 — 74xx173

Q1	3	1Q	1D 14	b8
Q2	4	2Q	2D 13	b9
Q3	5	3Q	3D 12	b10
Q4	6	4Q	4D 11	b11

RST 15 CLR
CLK 7 CLK
VCC 16 VCC

G1/G2 9/10 IN
M/N 1/2 GND
GND 8 GND

IC2 — 74xx173

Q5	3	1Q	1D 14	b12
Q6	4	2Q	2D 13	b13
Q7	5	3Q	3D 12	b14
Q8	6	4Q	4D 11	b15

RST 15 CLR
CLK 7 CLK
VCC 16 VCC

G1/G2 9/10 IN
M/N 1/2 GND
GND 8 GND

Decoupling Capacitors

VCC

C1	C3	C4	C5
10uF	100nF	100nF	100nF

GND

"74xx" Indicates the use LS (TTL) or HC(CMOS) ICs as your prefer for your build.

my LAB PCB
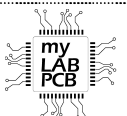
Project:	**myCPU Register 8 bit LEFT**
Revision: 7	**Date:** 02-Jan-24
Author:	**Rafa Hernández**

myCPU Register 8 bits (LEFT) Rev: 7
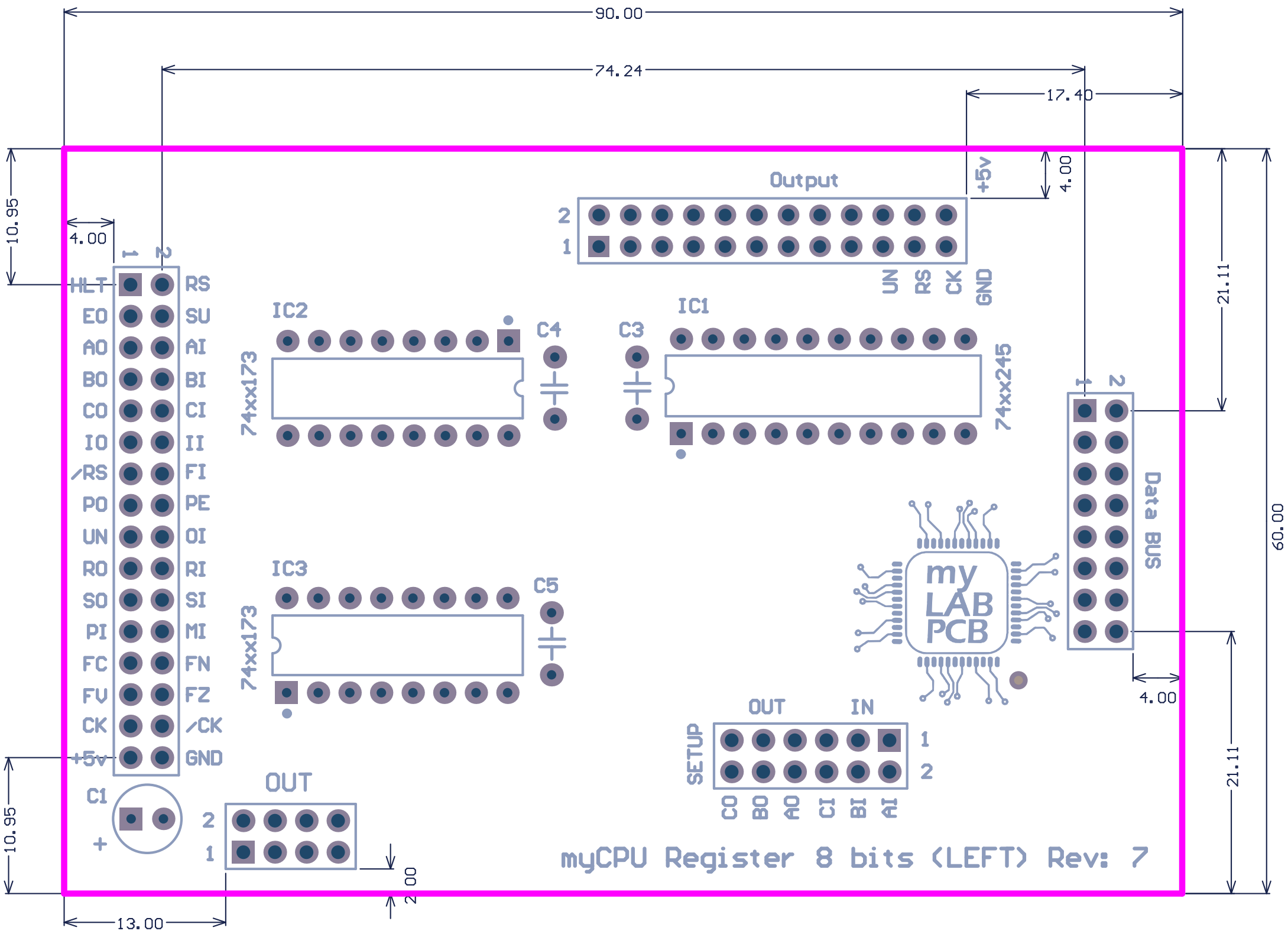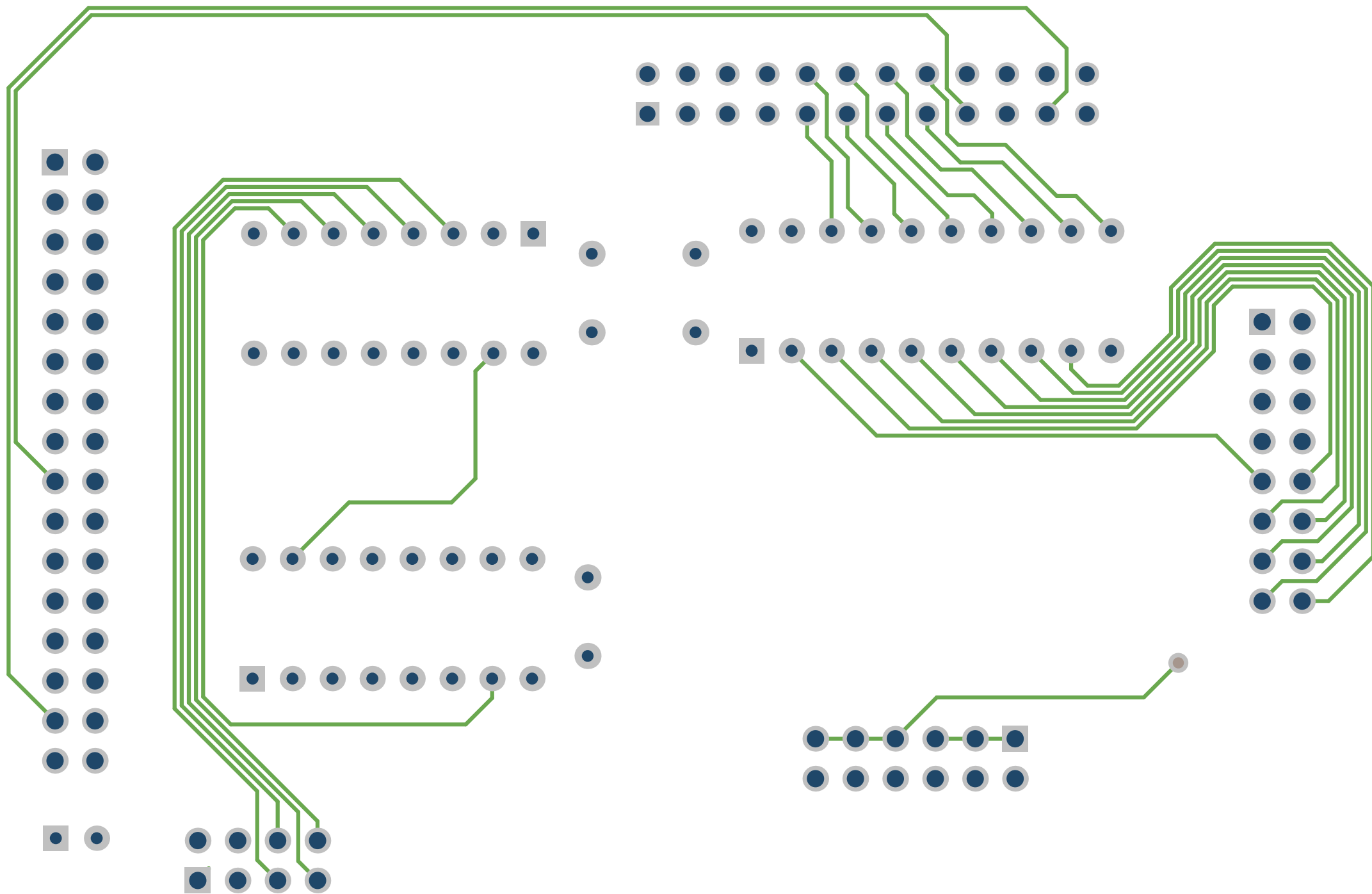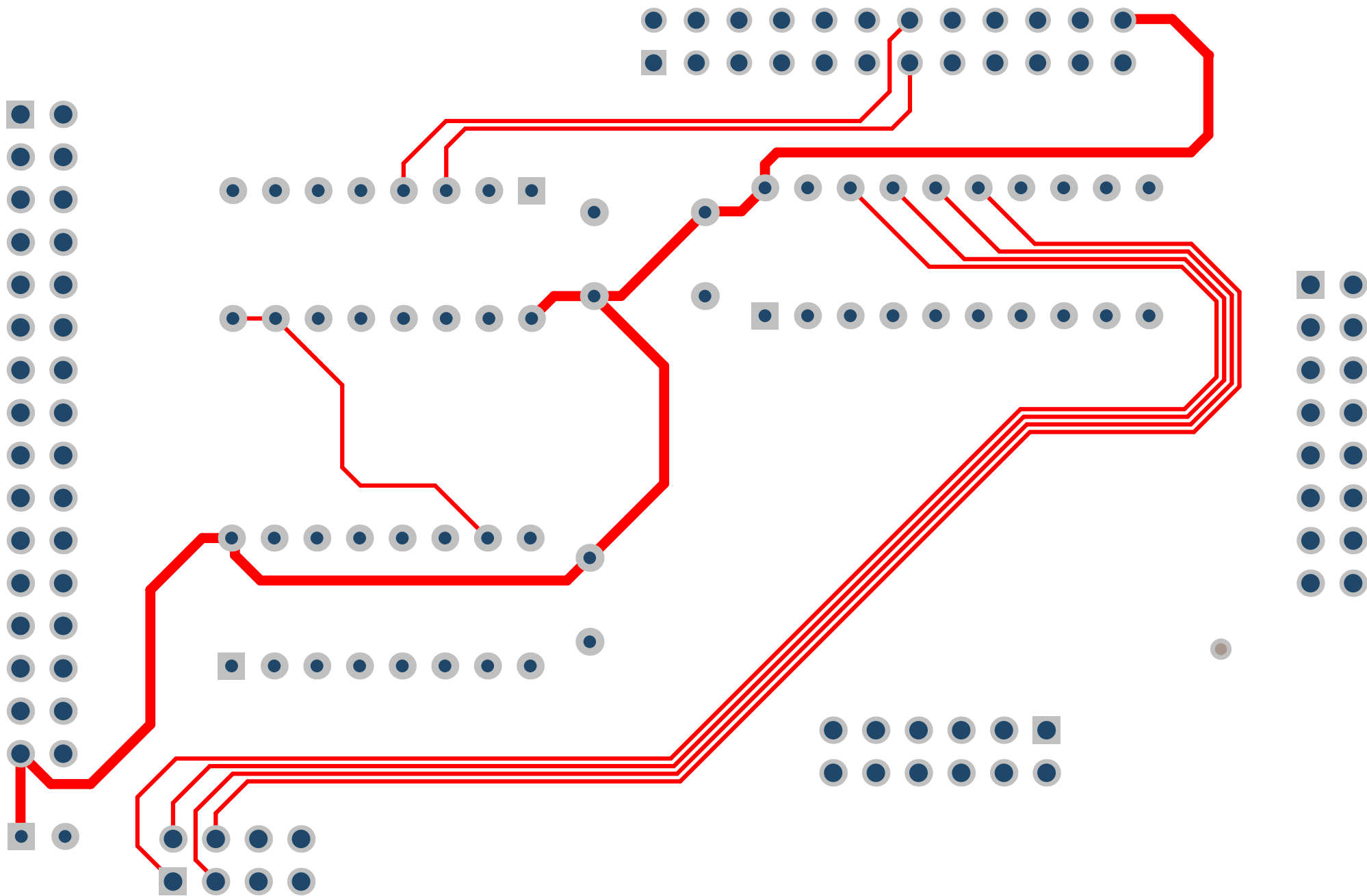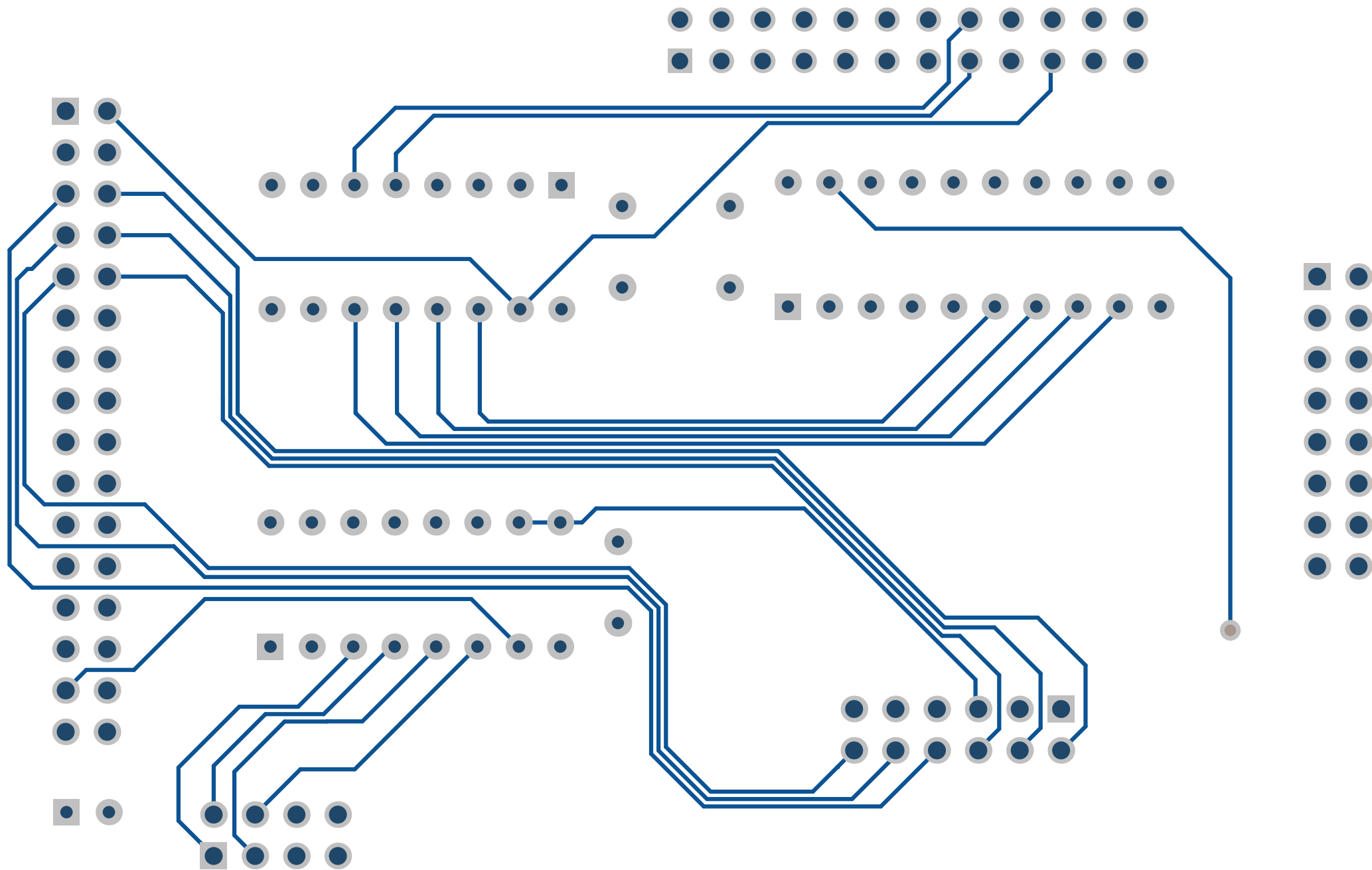
Bill of Materials

myCPU Register 8 bit

Description	Value	Q
Electrolytic capacitor 16v/50v	10uF	1
Ceramic or tantalum capacitor	100nF	3
Non inverting bus transceiver	74xx245	1
4-bit D-Type Register with 3 state outputs	74xx173	2
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 12p	12p	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 16p	16p	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 32p	32p	1
Socket Header, THT, pitch 2.54mm, Dual Row, Vertical, 24p	24p	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 8p	8p	1

Assembly List

myCPU Register 8 bit

Designator	Description	Value
C1	Electrolytic capacitor 16v/50v	10uF
C3	Ceramic or tantalum capacitor	100nF
C4	Ceramic or tantalum capacitor	100nF
C5	Ceramic or tantalum capacitor	100nF
IC1	Non inverting bus transceiver	74xx245
IC2	4-bit D-Type Register with 3 state outputs	74xx173
IC3	4-bit D-Type Register with 3 state outputs	74xx173
JP1	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 12p	12p
P1	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 16p	16p
P2	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 32p	32p
P3	Socket Header, THT, pitch 2.54mm, Dual Row, Vertical, 24p	24p
P4	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 8p	8p