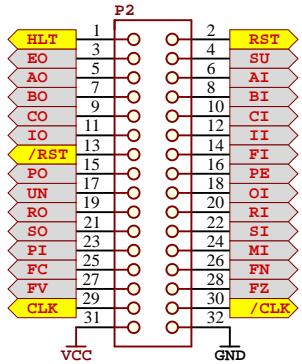
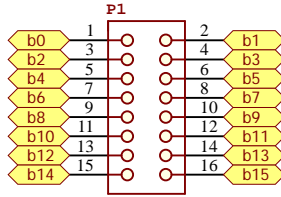


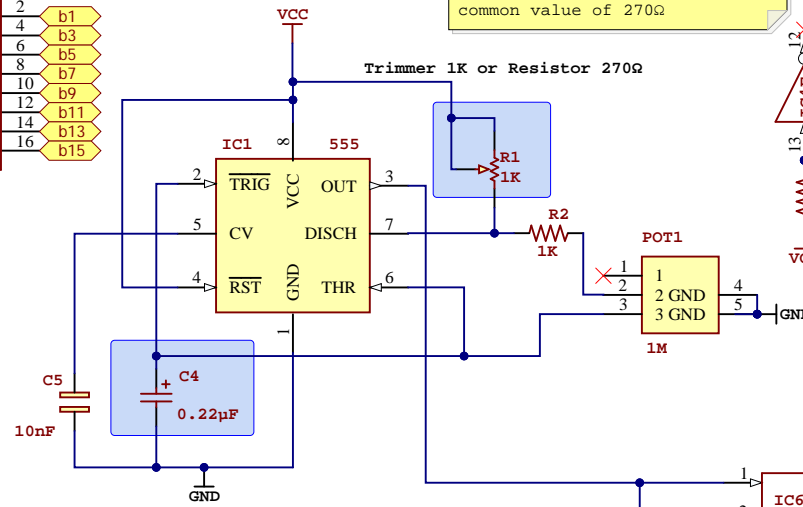
Control BUS Connector



Data BUS Connector

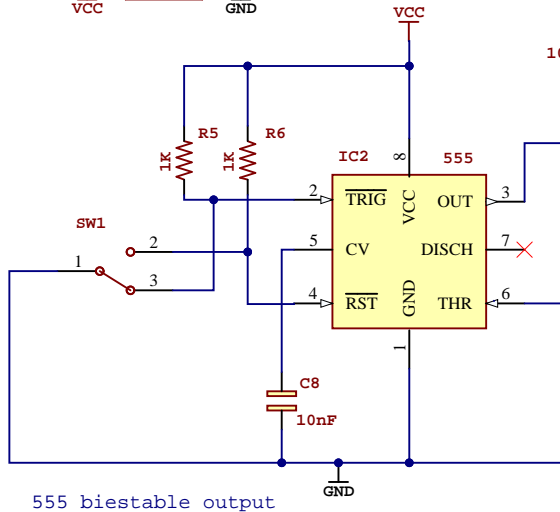
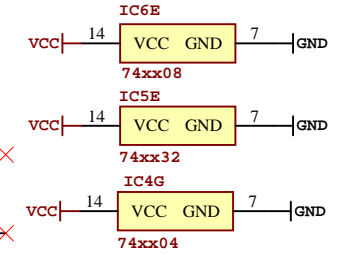
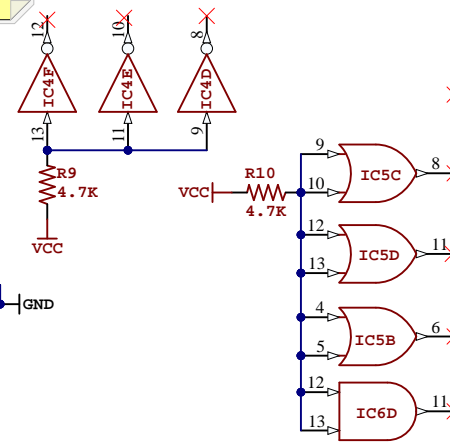


555 astable oscillator

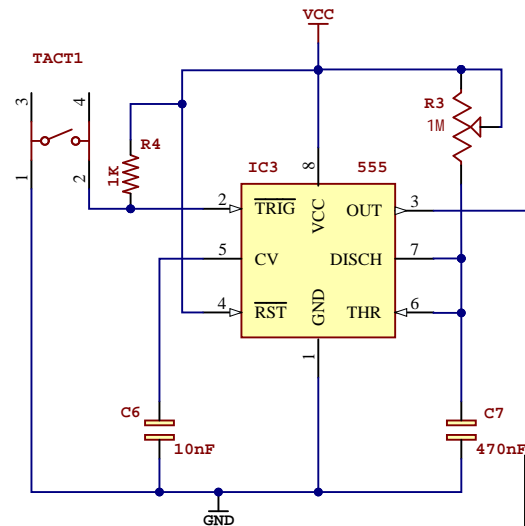


Control the duty cycle of the clock signal using R1. Without an oscilloscope use a common value of 270Ω

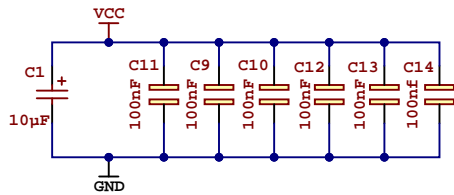
TTL Unused Inputs



555 biestable output



555 monoestable Debouncer



Decoupling Capacitors

External Output

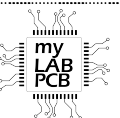
Control debouncing threshold of push button using a right combination of C7 and R3

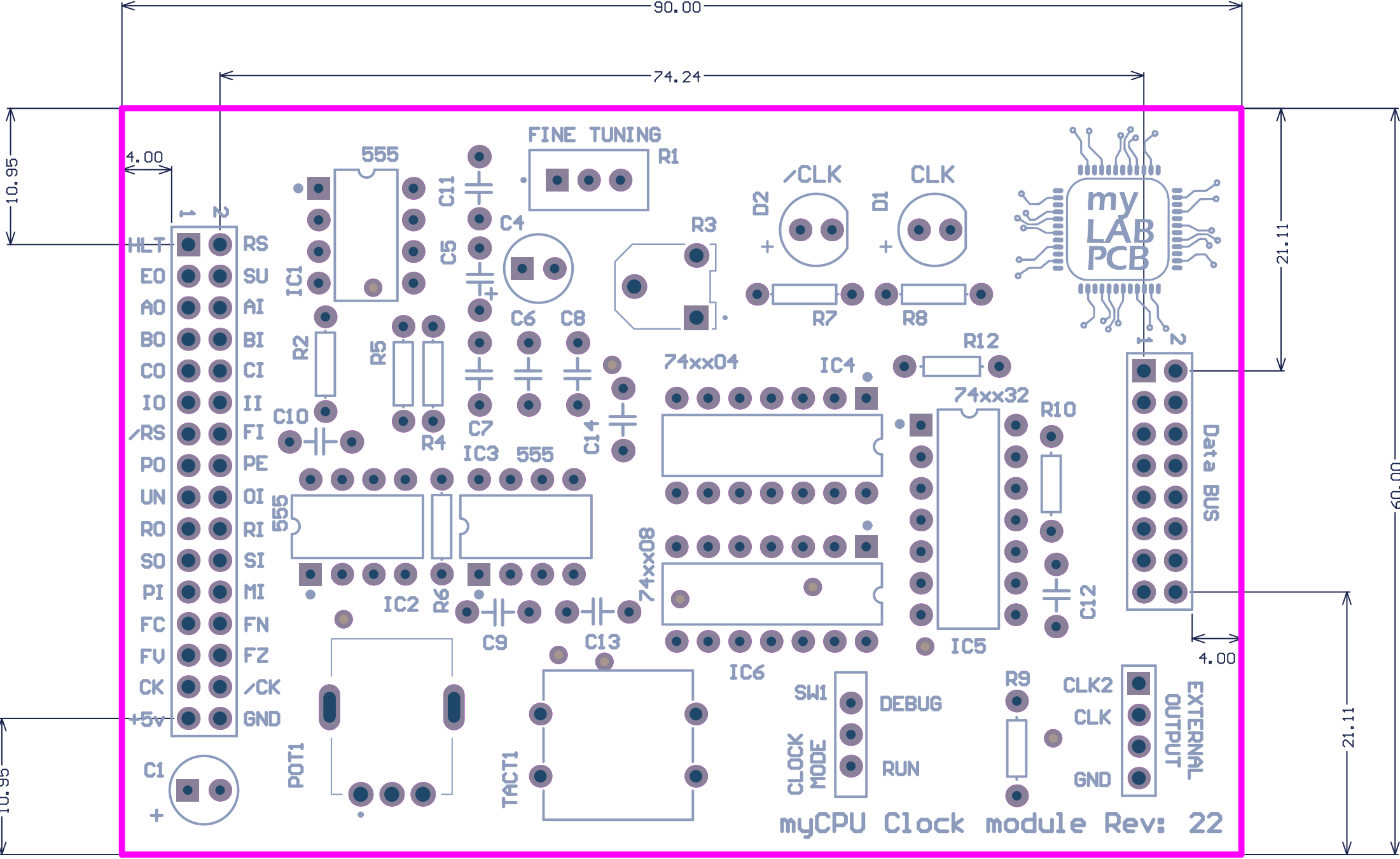
Project: myCPU Clock module

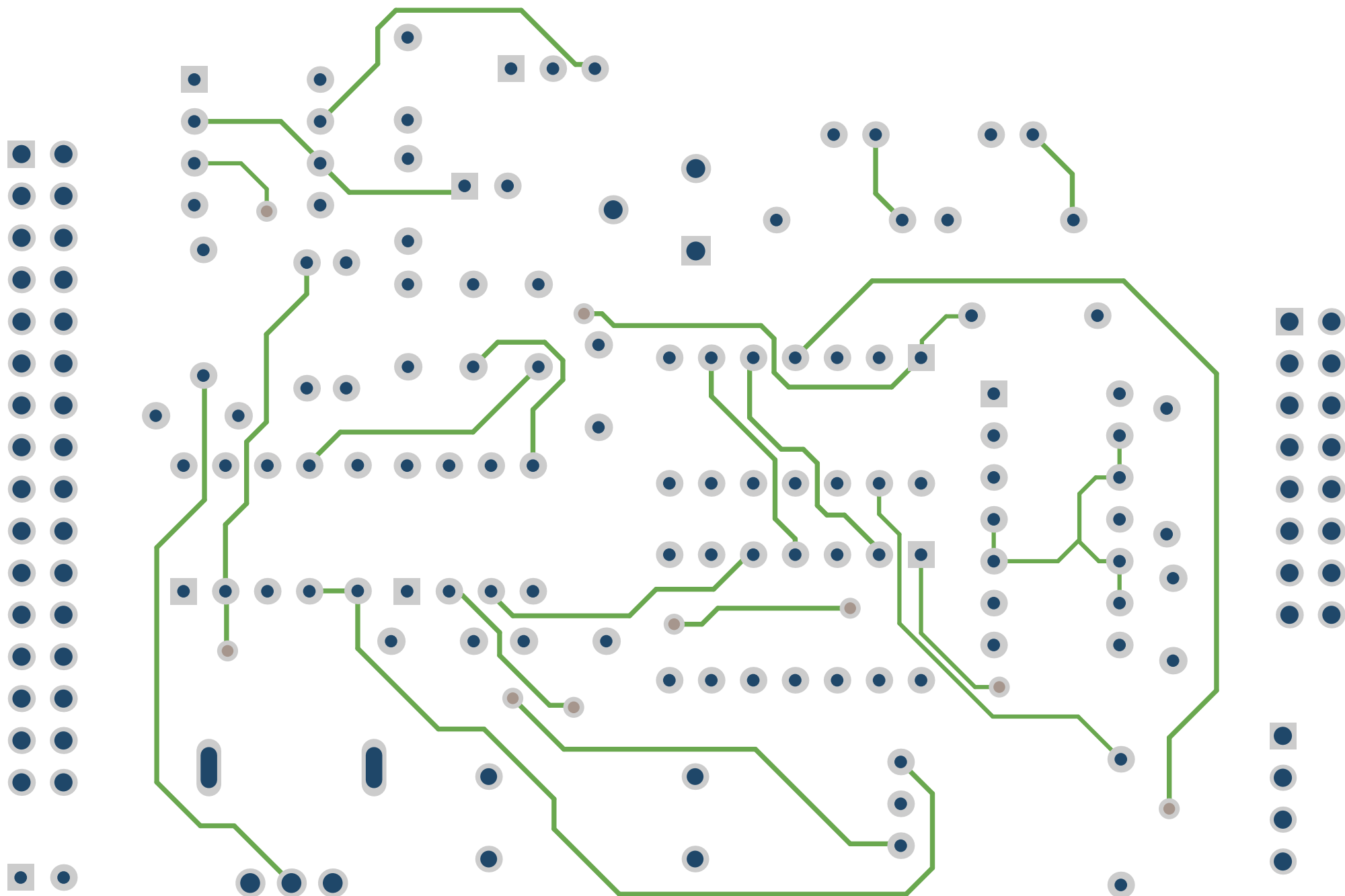
Revision: 22

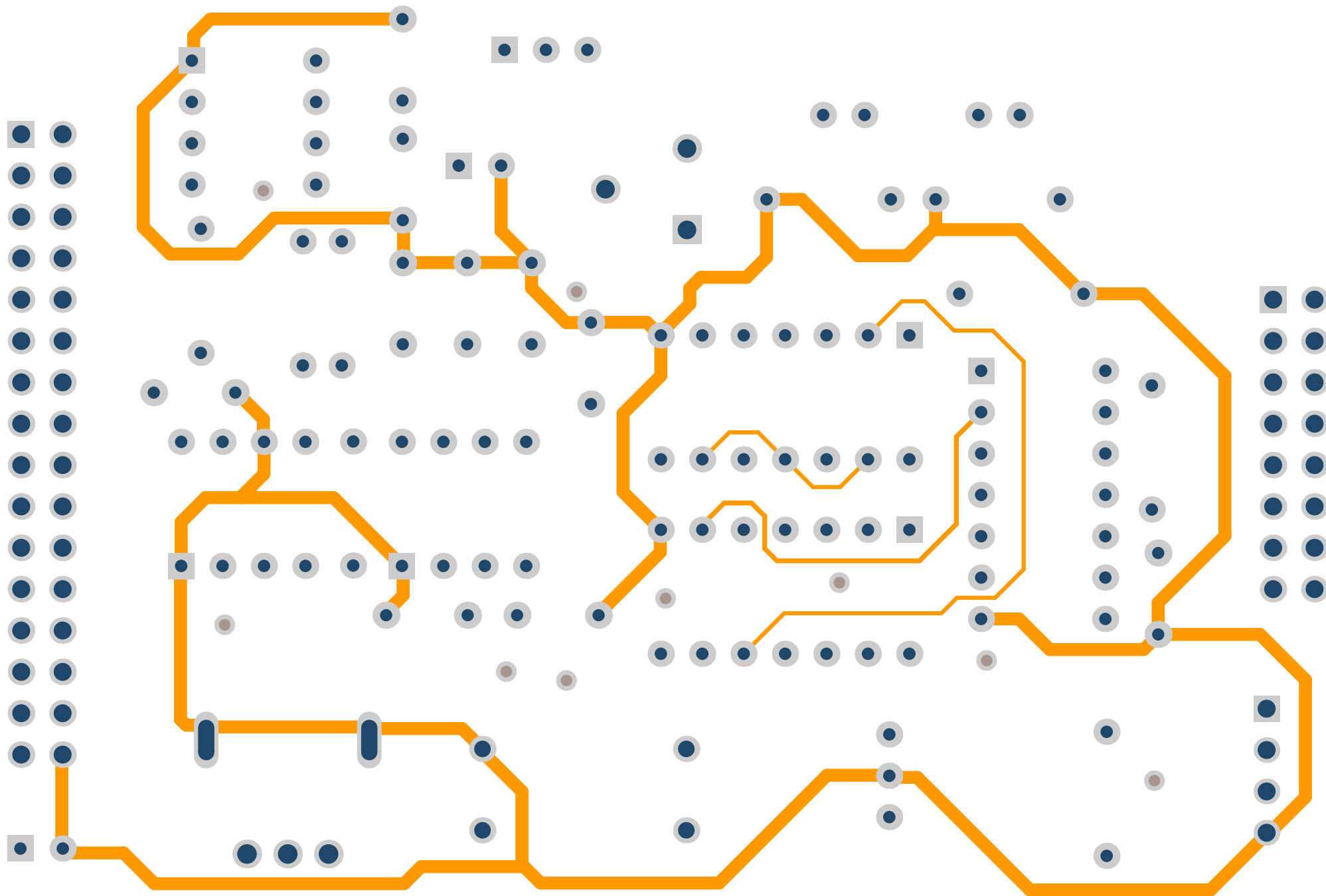
Date: 17-Sep-24

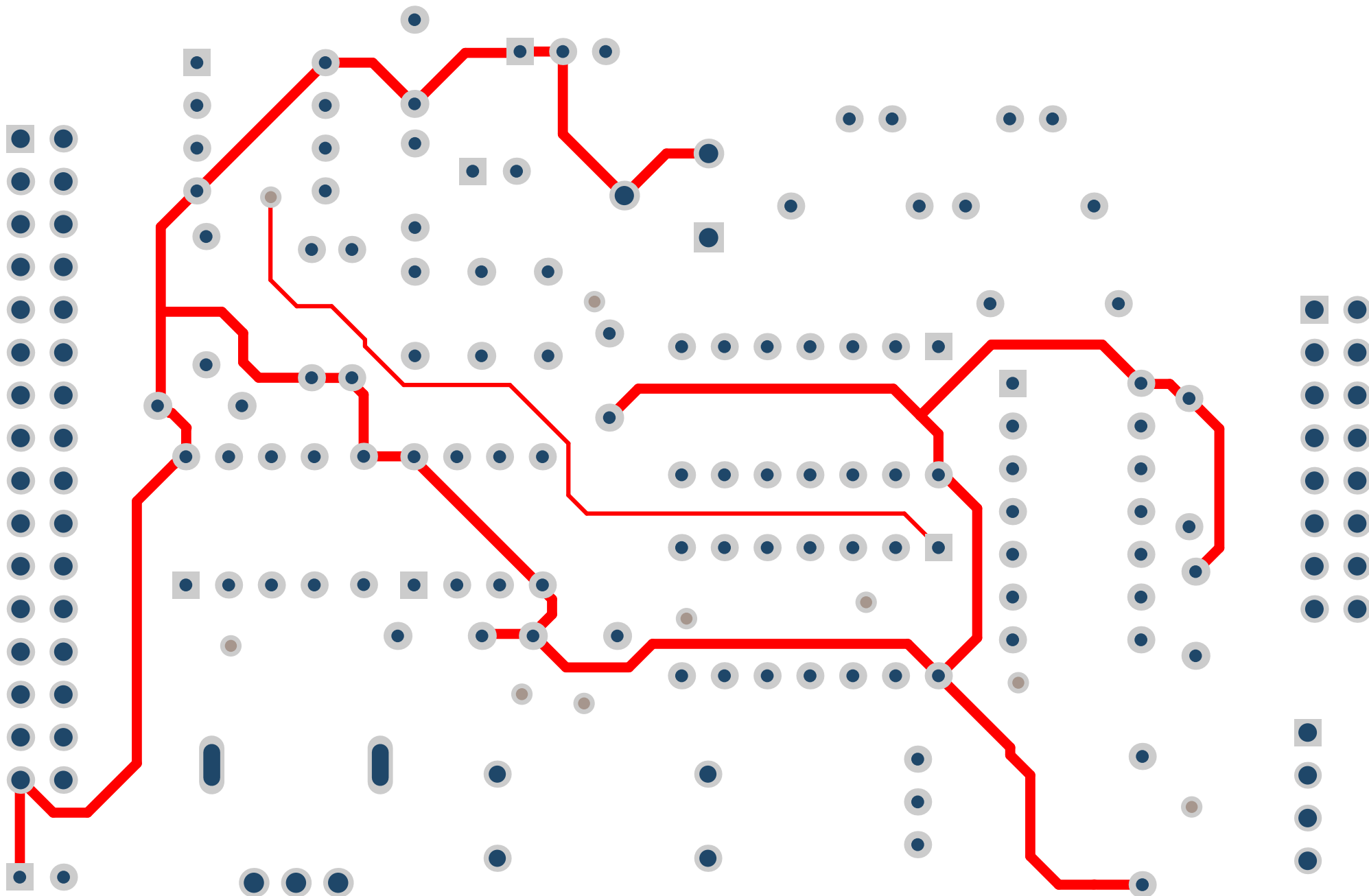
Author: Rafa Hernández

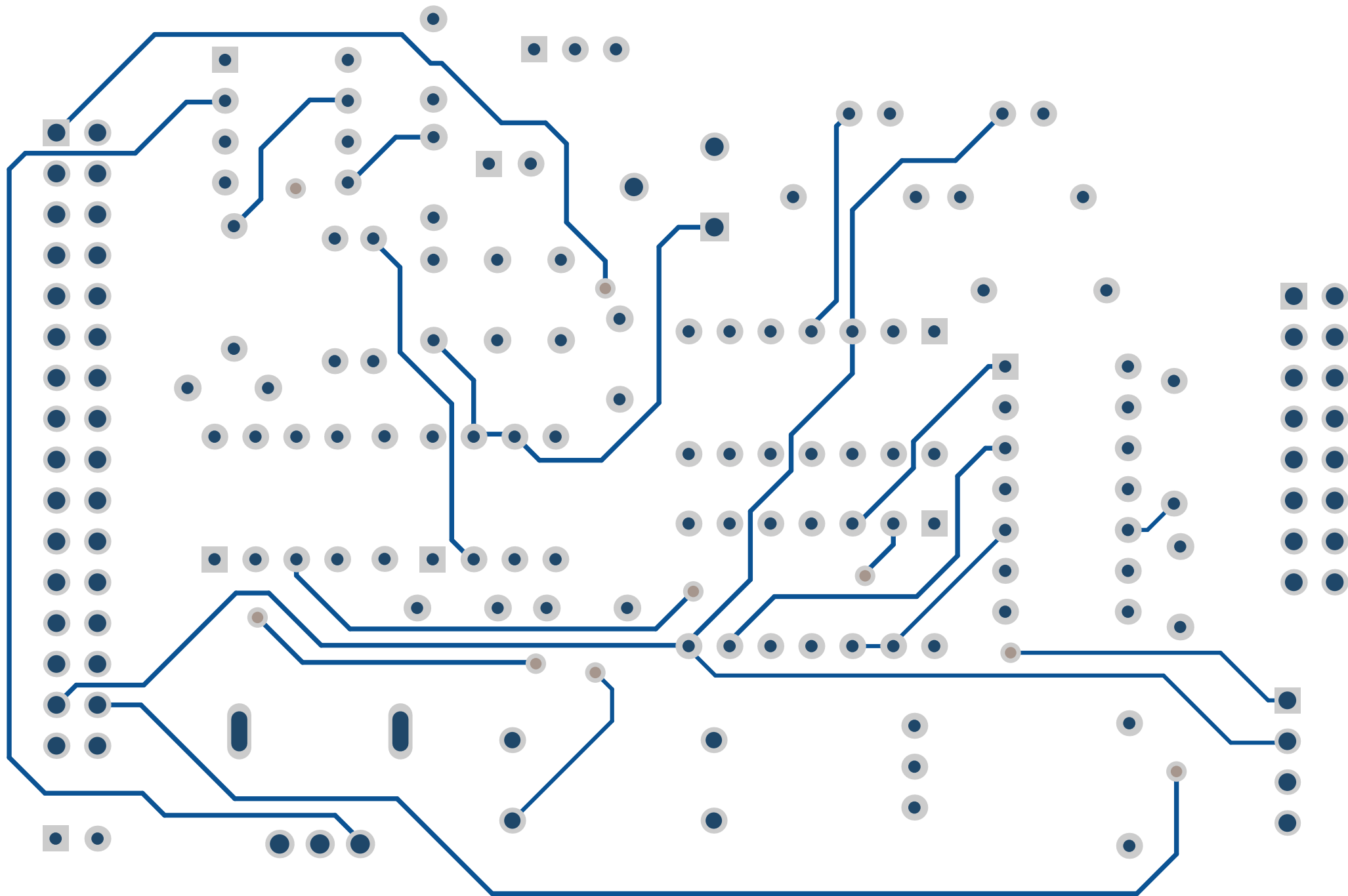










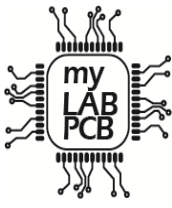




Bill of Materials

myCPU Clock

Description	Value	Q
555 Timer	555	3
Ceramic capacitor	10nF	3
Ceramic capacitor	470nF	1
Ceramic capacitor	100nF	6
Electrolytic capacitor 16v/50v	10µF	1
Electrolytic capacitor 16v/50v	0.22µF	1
Hex inverters	74xx04	1
Led 5mm Round	Red	1
Led 5mm Round	Green	1
Mini slide switch 2 pos, 3 pins	SP2T	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	16p	1
Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	32p	1
Pin Header, THT, pitch 2.54mm, Single Row, Vertical	4p	1
Potentiometer vertical, rotary, 3pins	1M	1
Quad 2-input AND gates	74xx08	1
Quad 2-input OR gates.	74xx32	1
Resistor Axial	1K	4
Resistor Axial	220	2
Resistor Axial	4.7K	2
Resistor Axial	330	1
Tactile button 12 mm	12mm	1
Trimmer resistor 3 pin	1K	1
Vertical variable resistor 3 pins	1M	1



Assembly List

myCPU Clock

Designator	Description	Value
C1	Electrolytic capacitor 16v/50v	10 μ F
C4	Electrolytic capacitor 16v/50v	0.22 μ F
C5	Ceramic capacitor	10nF
C6	Ceramic capacitor	10nF
C7	Ceramic capacitor	470nF
C8	Ceramic capacitor	10nF
C9	Ceramic capacitor	100nF
C10	Ceramic capacitor	100nF
C11	Ceramic capacitor	100nF
C12	Ceramic capacitor	100nF
C13	Ceramic capacitor	100nF
C14	Ceramic capacitor	100nf
D1	Led 5mm Round	Red
D2	Led 5mm Round	Green
IC1	555 Timer	555
IC2	555 Timer	555
IC3	555 Timer	555
IC4	Hex inverters	74xx04
IC5	Quad 2-input OR gates.	74xx32
IC6	Quad 2-input AND gates	74xx08
P1	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	16p
P2	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical	32p
POT1	Potentiometer vertical, rotary, 3pins	1M
R1	Trimmer resistor 3 pin	1K
R2	Resistor Axial	1K
R3	Vertical variable resistor 3 pins	1M
R4	Resistor Axial	1K
R5	Resistor Axial	1K
R6	Resistor Axial	1K
R7	Resistor Axial	220
R8	Resistor Axial	220
R9	Resistor Axial	4.7K
R10	Resistor Axial	4.7K
R12	Resistor Axial	330
SW1	Mini slide switch 2 pos, 3 pins	SP2T
T1	Pin Header, THT, pitch 2.54mm, Single Row, Vertical	4p
TACT1	Tactile button 12 mm	12mm