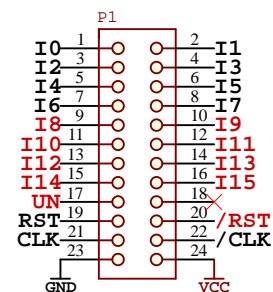
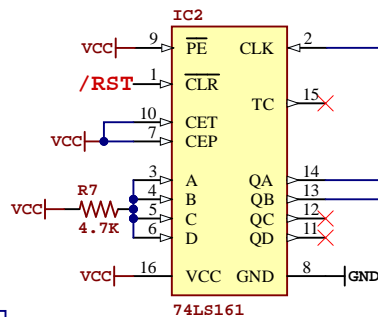


INPUT Data Connector



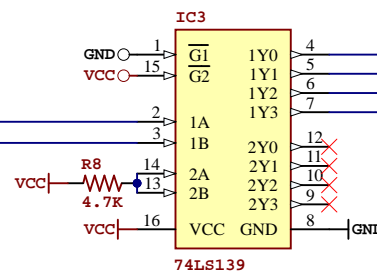
This counter, don't need load and always is counting. So CET, CET is connected to VCC and /PE is connected to VCC too to disable load.

DIGIT Counter

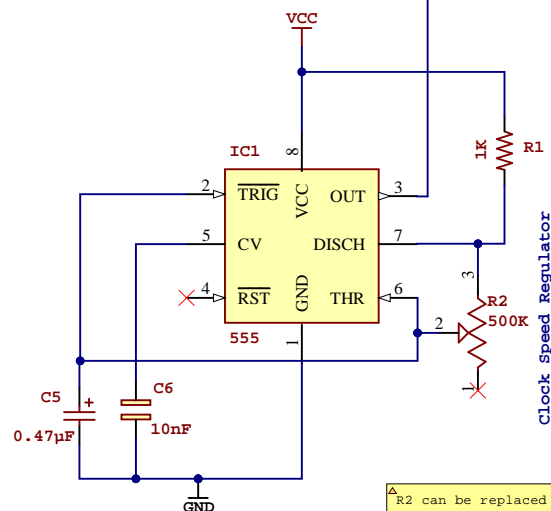
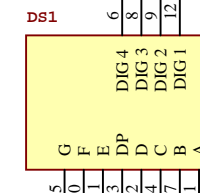


Counter control digit switch from D1 to D4. Output weight goes from QA to QD.

DIGIT Switcher

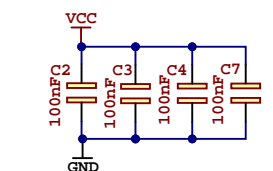


Digit selection must be synchronizing with the decoder addresses A8, A9 and the decoding code. In our case selection goes from Y3 (Dig1) to Y0 (Dig4)

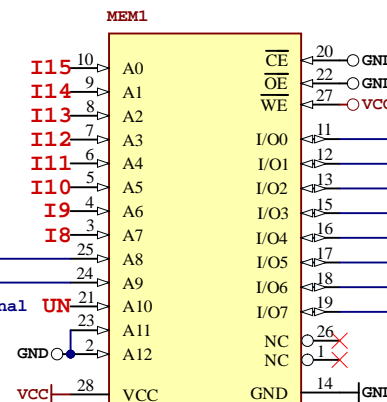


DIGIT SWITCH CLOCK

R2 can be replaced by a low value resistor between 3K-5K to set a constant speed for a digit switching at a good rate. Recommended value 4.7K

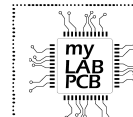


Decoupling Capacitors



BINARY TO DECIMAL DECODER

"UN" signal sets the behavior of display to 2's complement representation.

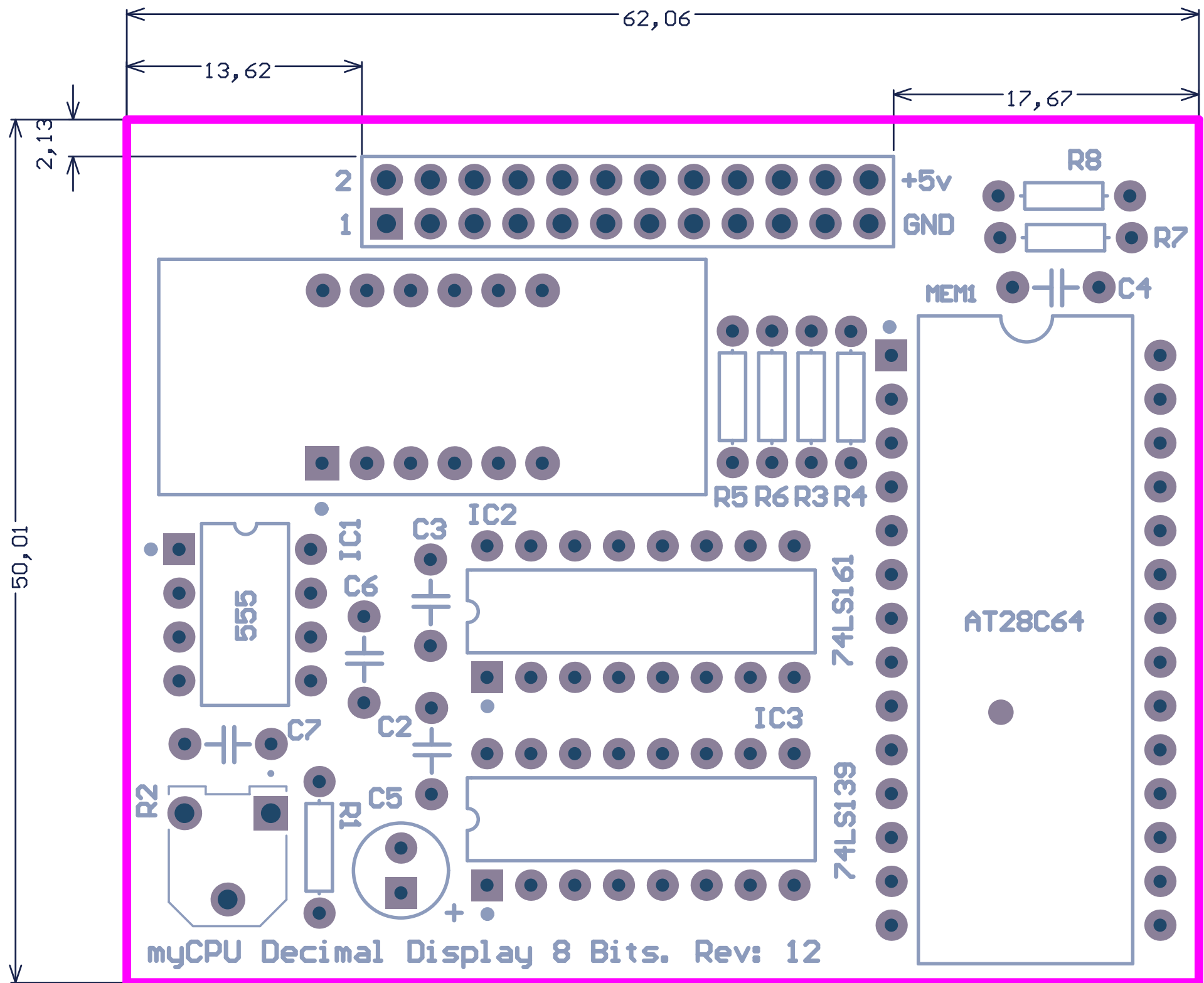


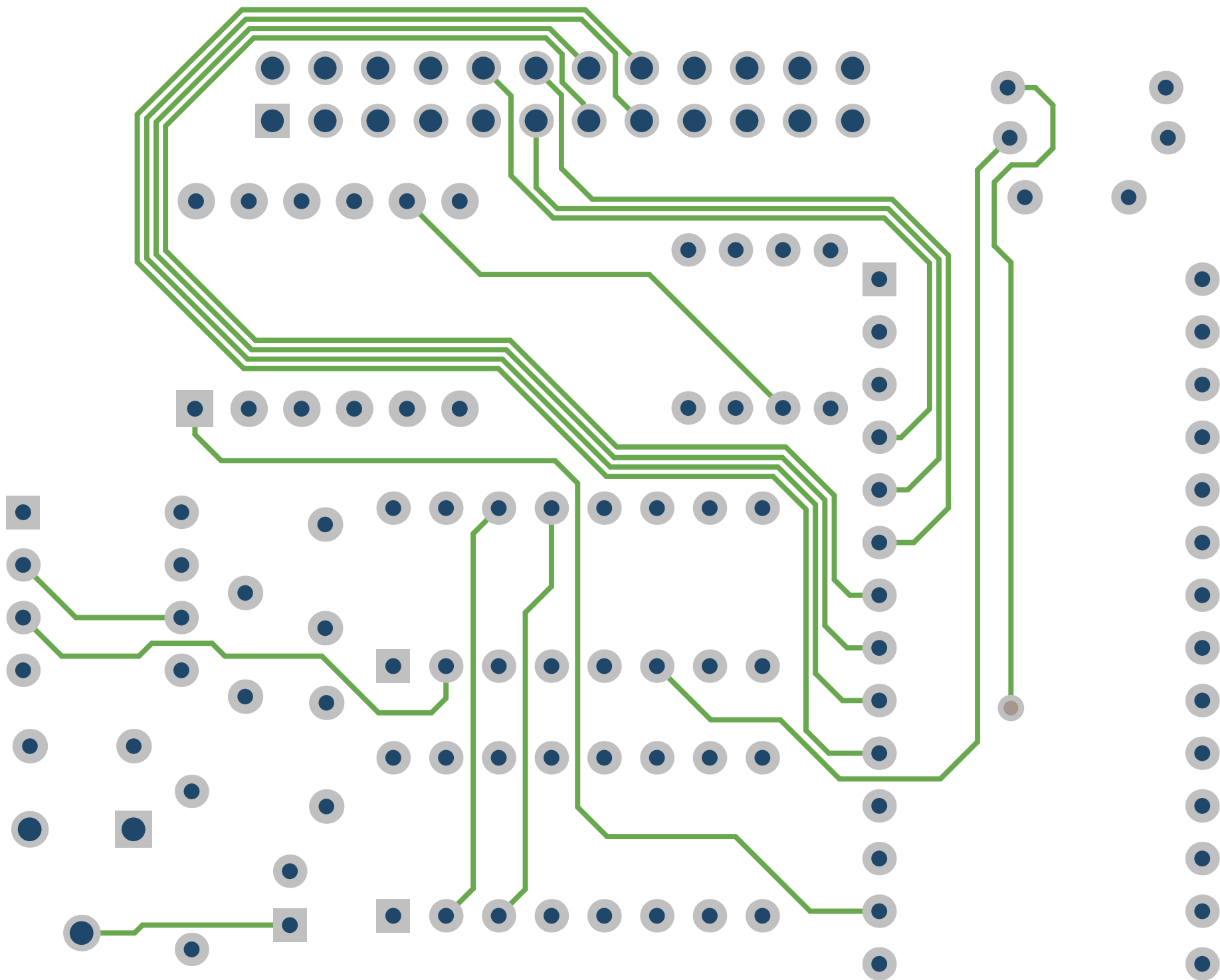
Project: myCPU Decimal Display 4 Digit 8 bit

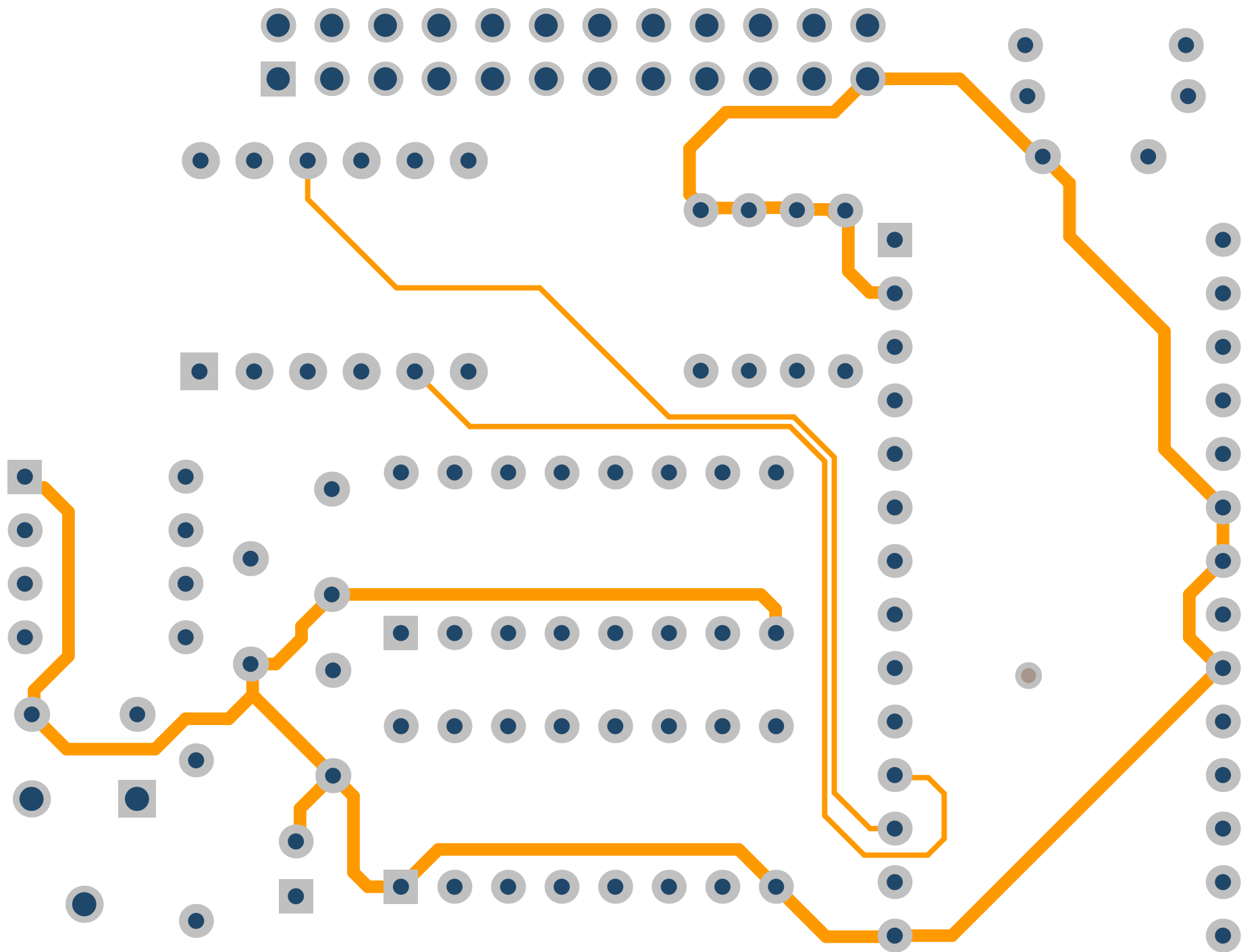
Revision: 12

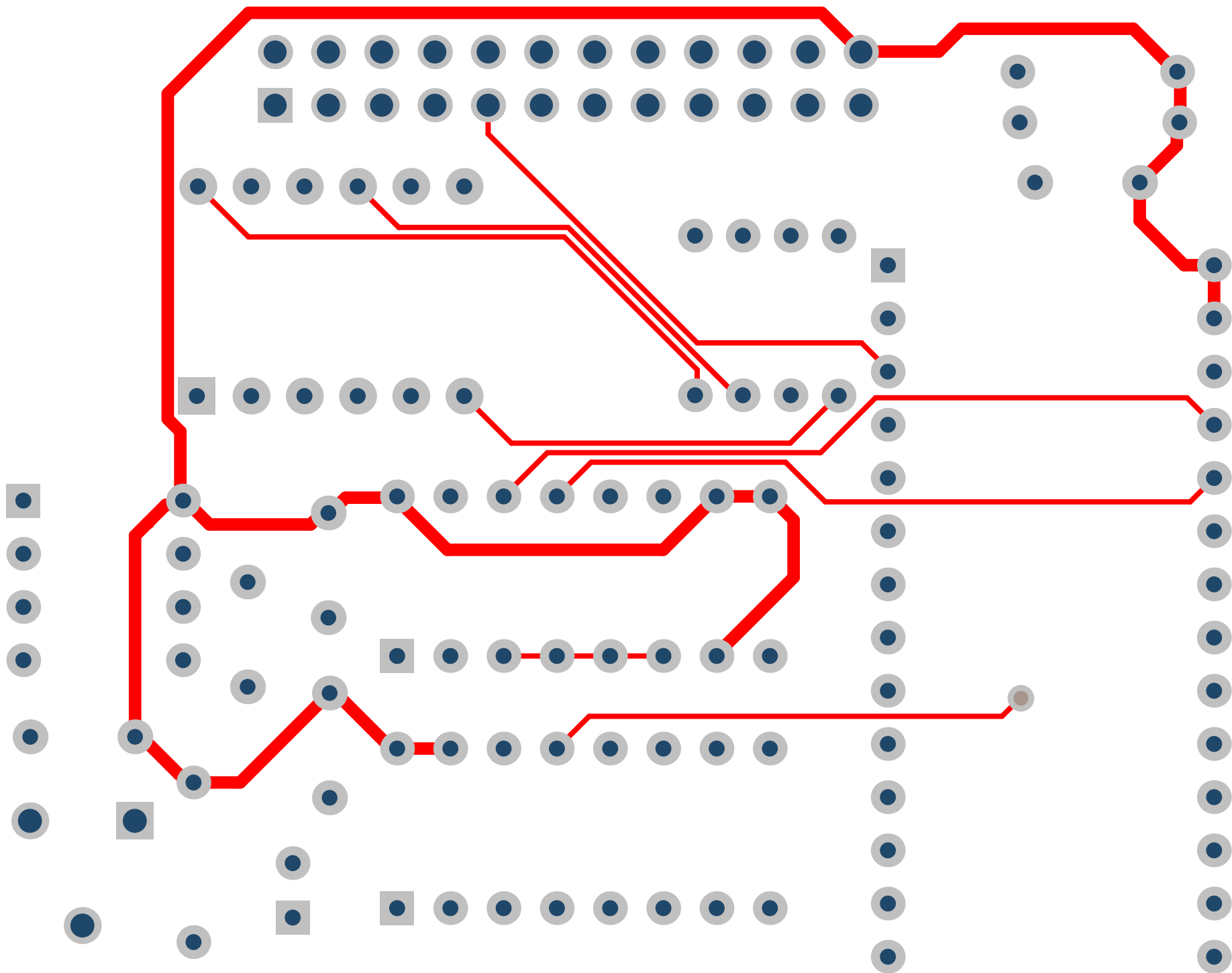
Date: 18/11/2022

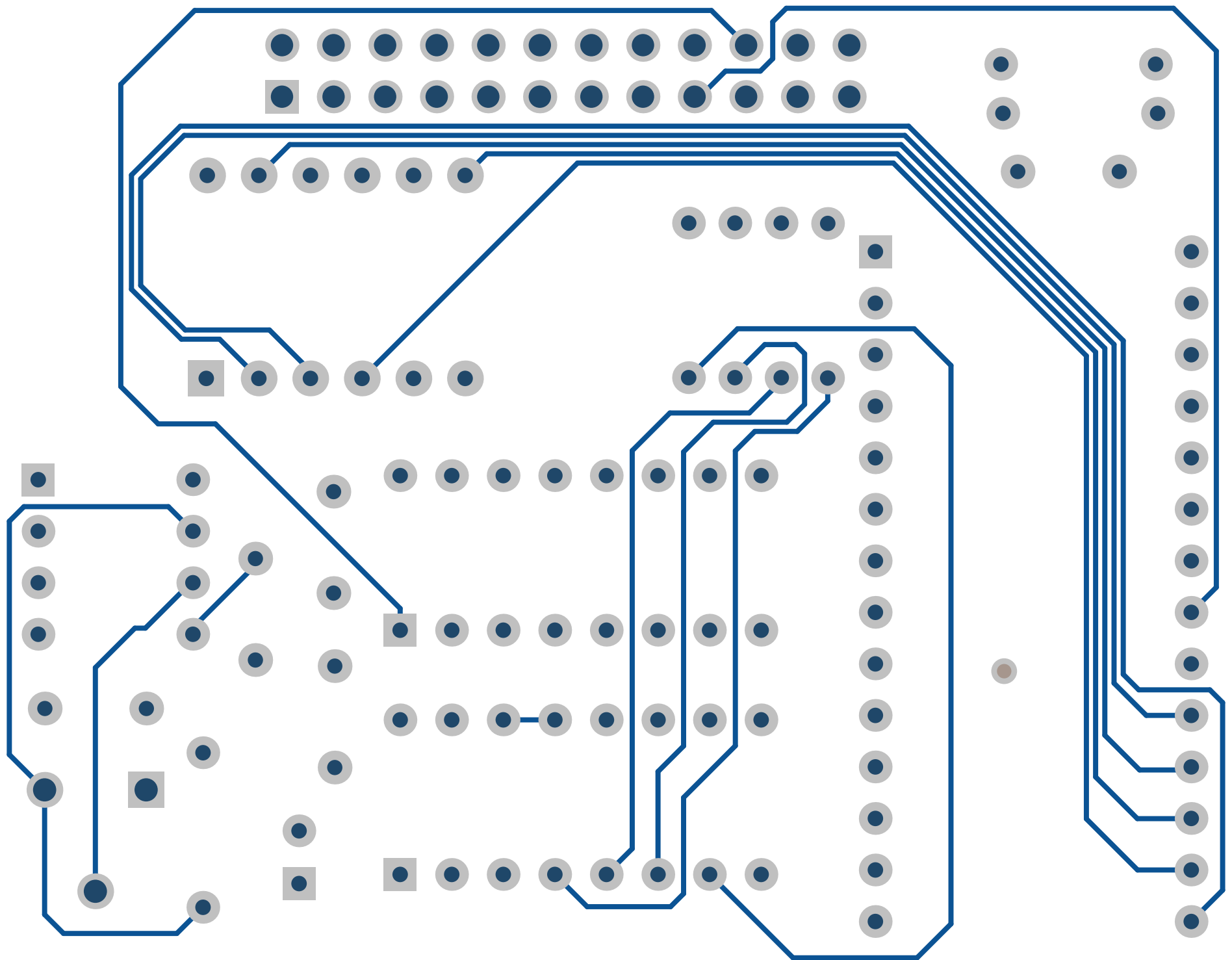
Author: Rafa Hernández







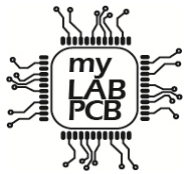






Bill of Materials

Designator	Description	Value	Q
C2, C3, C4, C7	Ceramic or tantalum capacitor	100nF	4
C5	Electrolytic capacitor 16v/50v	0.47μF	1
C6	Ceramic or tantalum capacitor	10nF	1
DS1	Display 7 segments 4 digits, common cathode, size 0.36"	Red	1
IC1	555 Timer	555	1
IC2	4-Bit sync counter	74LS161	1
IC3	Decoder/Demultiplexer Dual 2-to-4	74LS139	1
MEM1	EEProm 64K, 8K x 8 bits	AT28C64	1
P1	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 24 pins	24p	1
R1	Resistor Axial	1K	1
R2	Variable resistor, Horizontal, 3 pins	500K	1
R3, R4, R5, R6	Resistor Axial	330Ω	4
R7, R8	Resistor Axial	4.7K	2



Assembly List

Designator	Description	Value
C2	Ceramic or tantalum capacitor	100nF
C3	Ceramic or tantalum capacitor	100nF
C4	Ceramic or tantalum capacitor	100nF
C5	Electrolytic capacitor 16v/50v	0.47 μ F
C6	Ceramic or tantalum capacitor	10nF
C7	Ceramic or tantalum capacitor	100nF
DS1	Display 7 segments 4 digits, common cathode, size 0.36"	Red
IC1	555 Timer	555
IC2	4-Bit sync counter	74LS161
IC3	Decoder/Demultiplexer Dual 2-to-4	74LS139
MEM1	EEProm 64K, 8K x 8 bits	AT28C64
P1	Pin Header, THT, pitch 2.54mm, Dual Row, Vertical, 24p	24p
R1	Resistor Axial	1K
R2	Variable resistor, Horizontal, 3 pins	500K
R3	Resistor Axial	330 Ω
R4	Resistor Axial	330 Ω
R5	Resistor Axial	330 Ω
R6	Resistor Axial	330 Ω
R7	Resistor Axial	4.7K
R8	Resistor Axial	4.7K