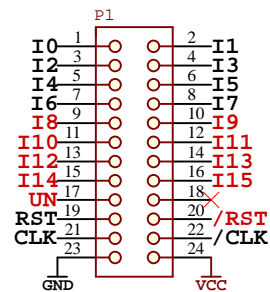
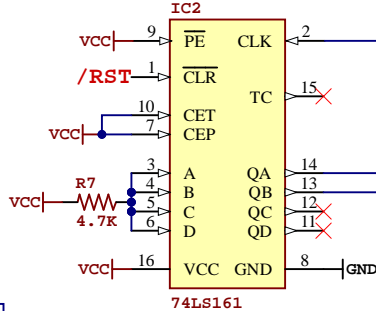


INPUT Data Connector



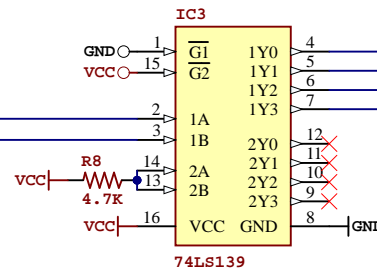
This counter, don't need load and always is counting. So CET, CET is connected to VCC and /PE is connected to VCC too to disable load.

DIGIT Counter

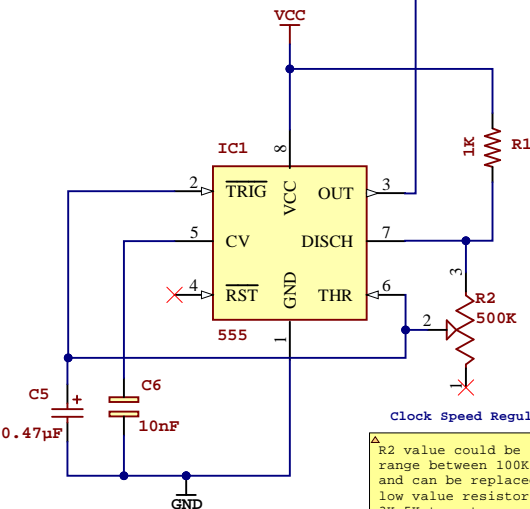
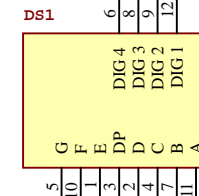


Counter control digit switch from D1 to D4. Output weight goes from QA to QD.

DIGIT Switcher



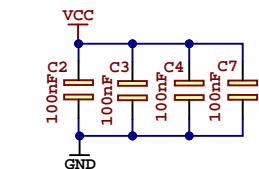
Digit selection must be synchronizing with the decoder addresses A8, A9 and the decoding code. In our case selection goes from Y3 (Dig1) to Y0 (Dig4)



DIGIT SWITCH CLOCK

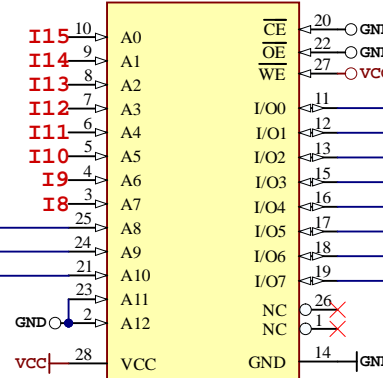
Clock Speed Regulator

R2 value could be in a range between 100K-500k and can be replaced by a low value resistor between 3K-5K to set a constant speed for a digit switch at a good rate. A recommended value to a fixed resistor could be 4.7K



Decoupling Capacitors

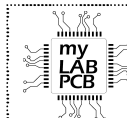
MEM1



AT28C64

BINARY TO DECIMAL DECODER

"UN" signal sets the behavior of display to 2's complement representation. LOW by default. Need to be pulled-down to support modules without connected UN signal

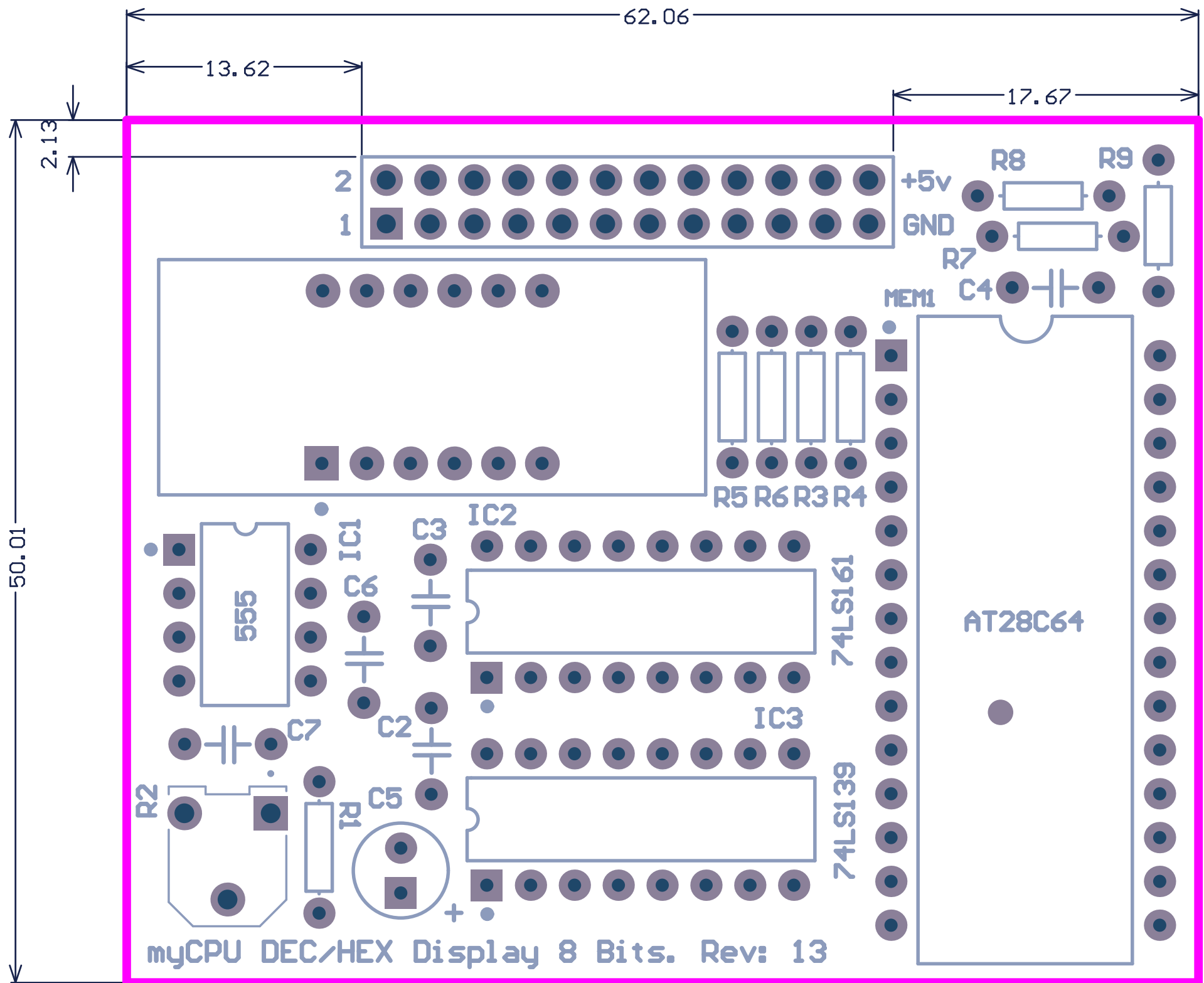


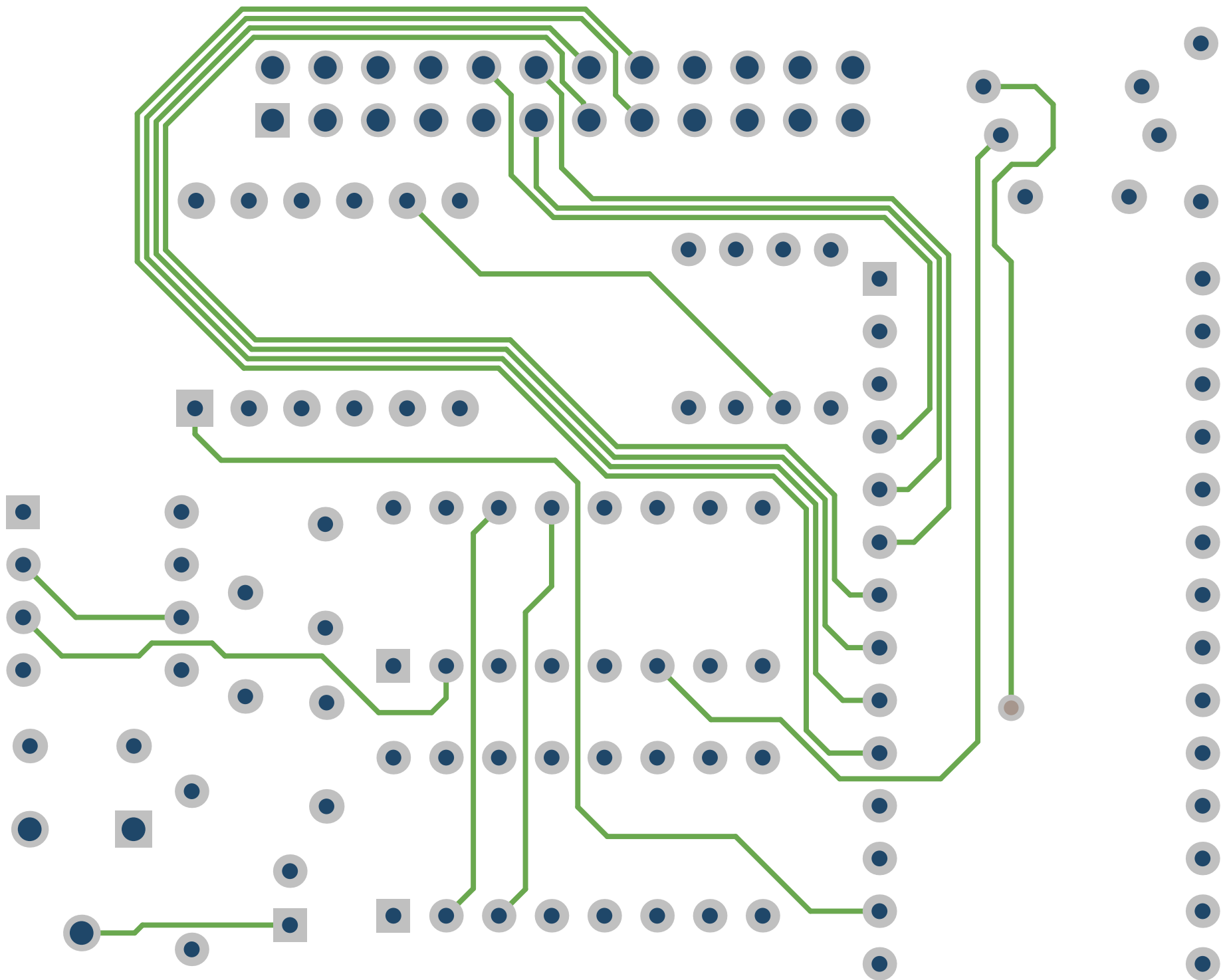
Project: myCPU DEC/HEX Display 4 Digit 8 bit

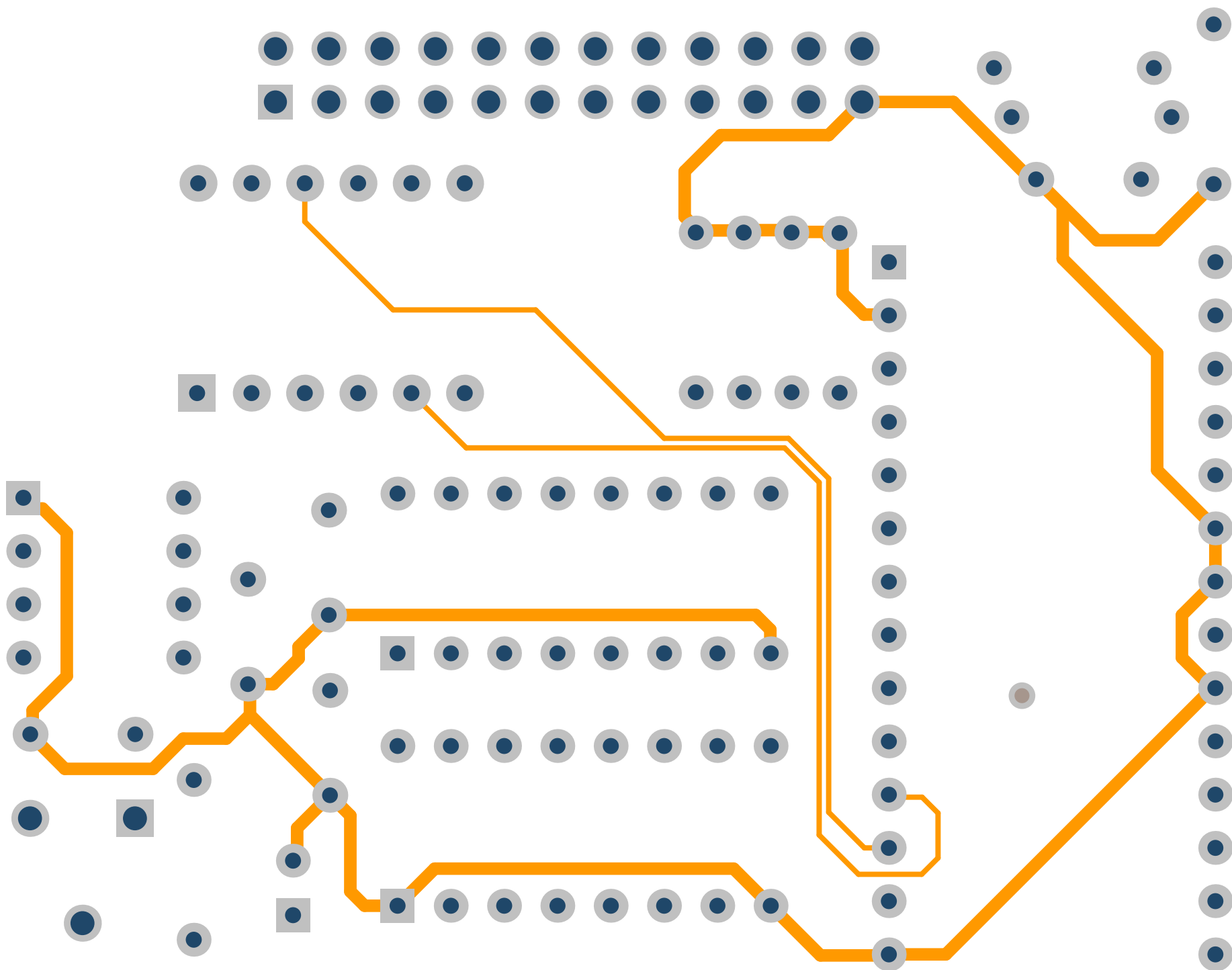
Revision: 13

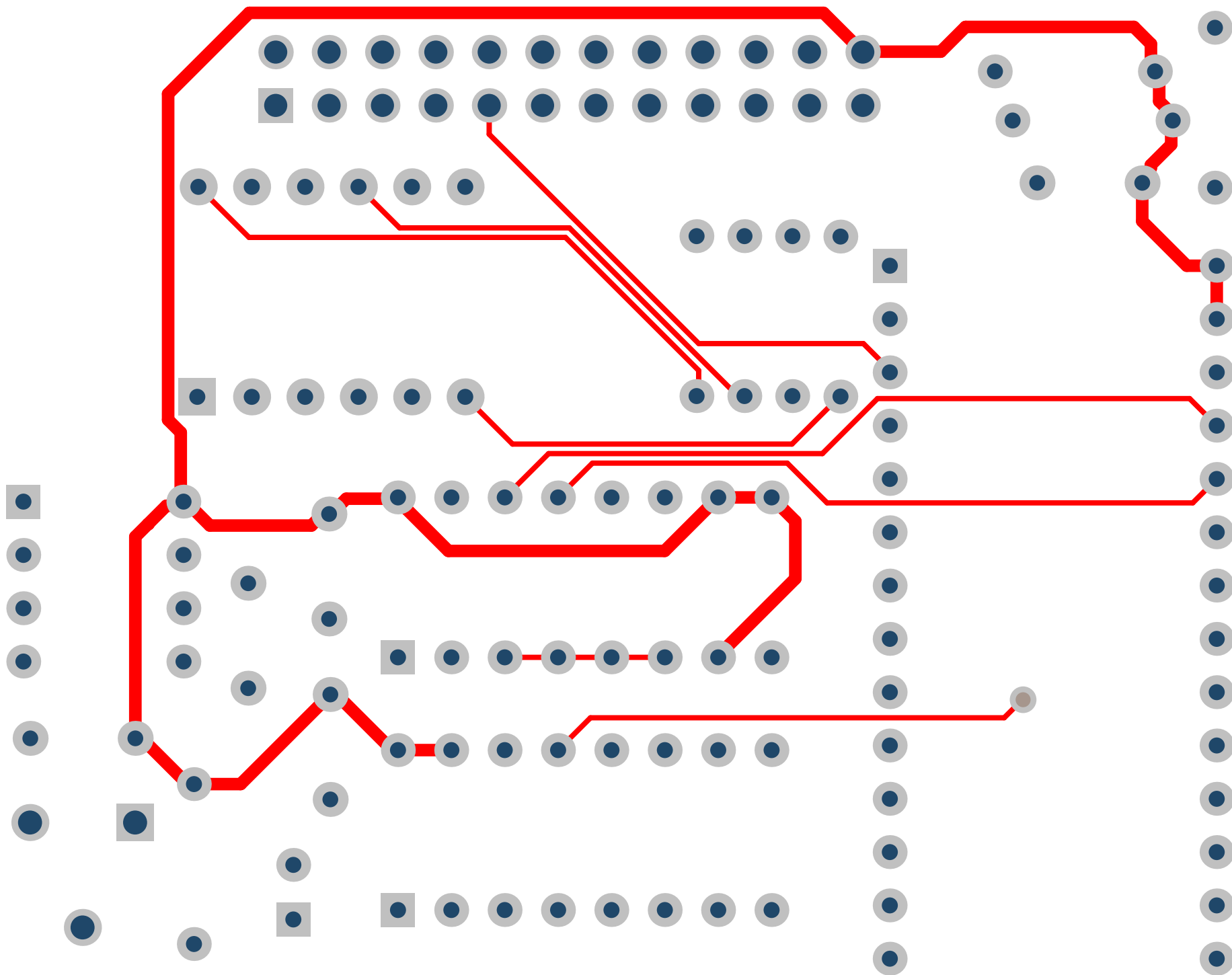
Date: 05-Sep-23

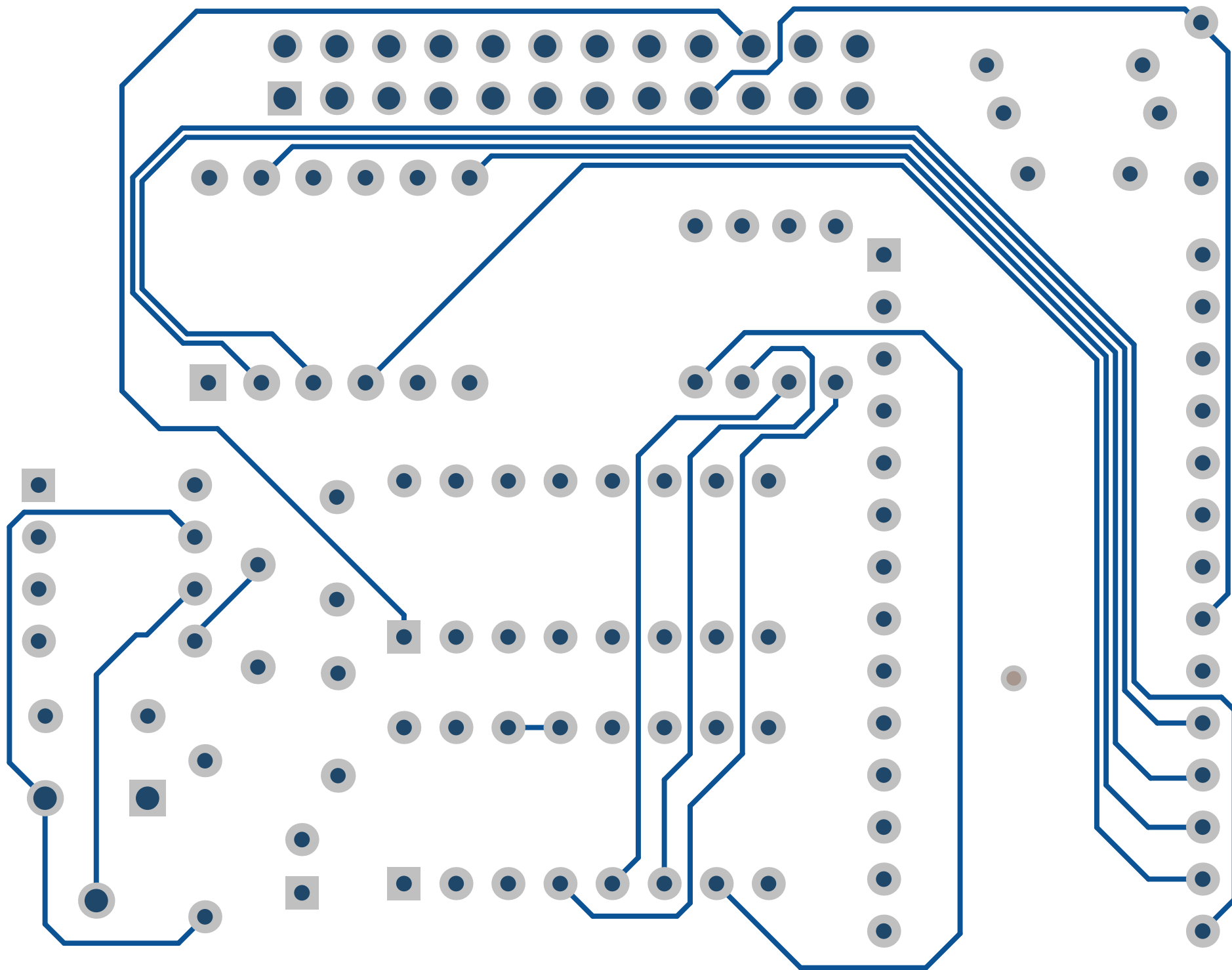
Author: Rafa Hernández













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, 24p | 24p | 1 |
| R1 | Resistor Axial | 1K | 1 |
| R2 | Variable resistor, Horizontal, 3 pins | 500K | 1 |
| R3, R4, R5, R6, R9 | Resistor Axial | 330Ω | 5 |
| 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 | 0.47μF |
| 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 | 330Ω |
| R4 | Resistor Axial | 330Ω |
| R5 | Resistor Axial | 330Ω |
| R6 | Resistor Axial | 330Ω |
| R7 | Resistor Axial | 4.7K |
| R8 | Resistor Axial | 4.7K |
| R9 | Resistor Axial | 330Ω |