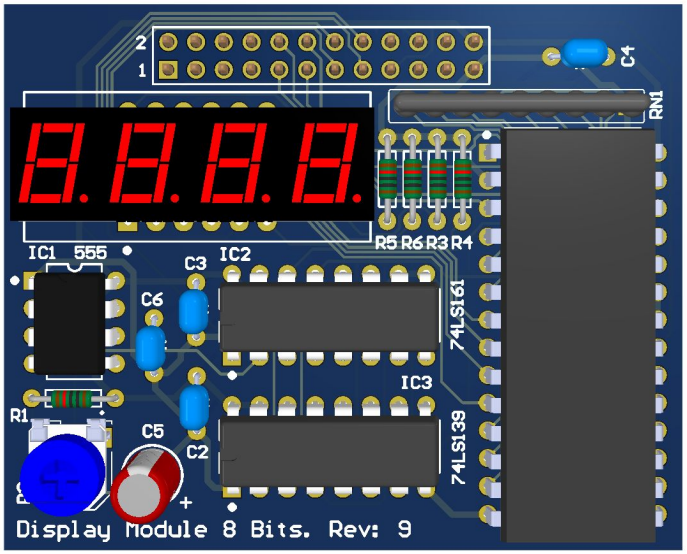
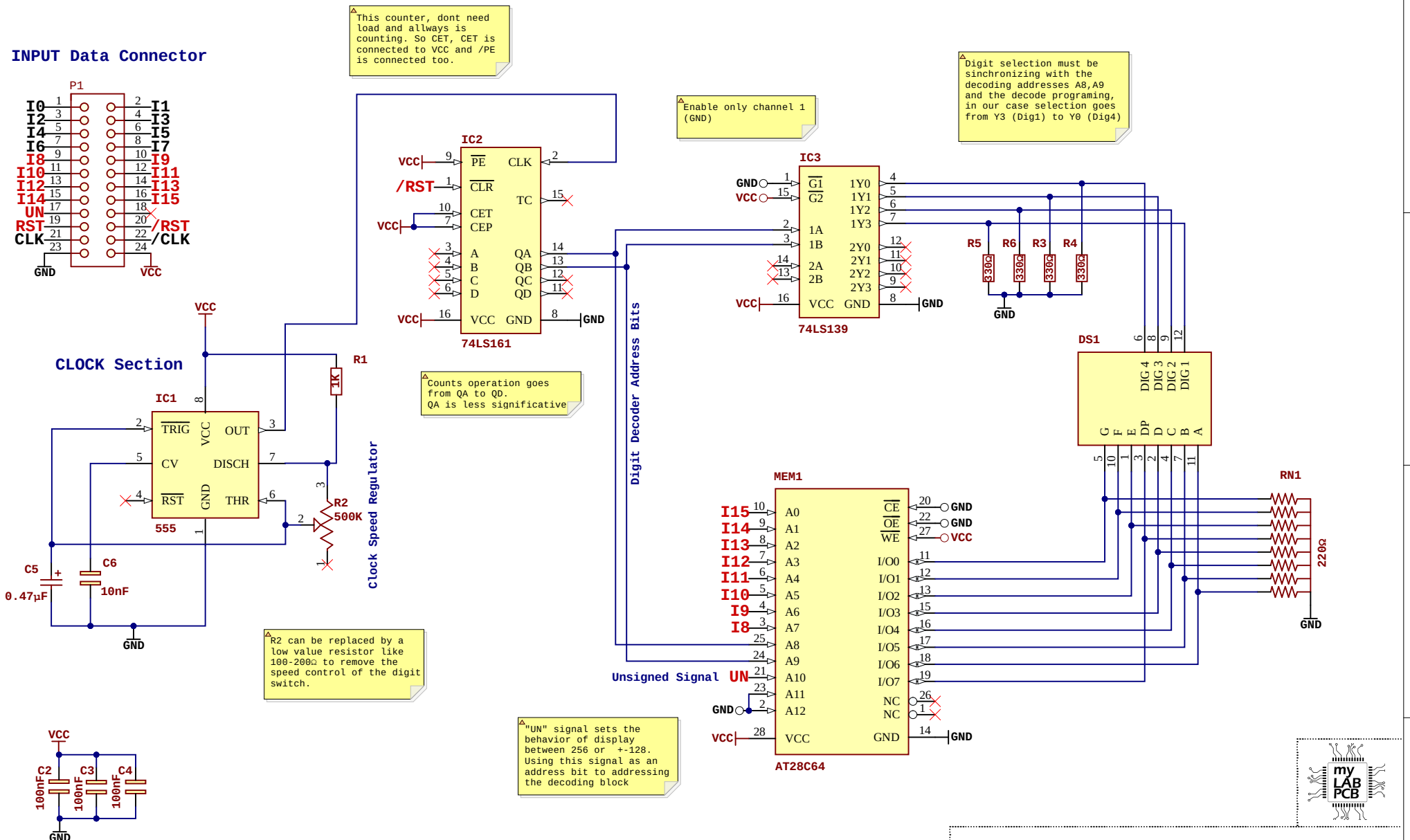
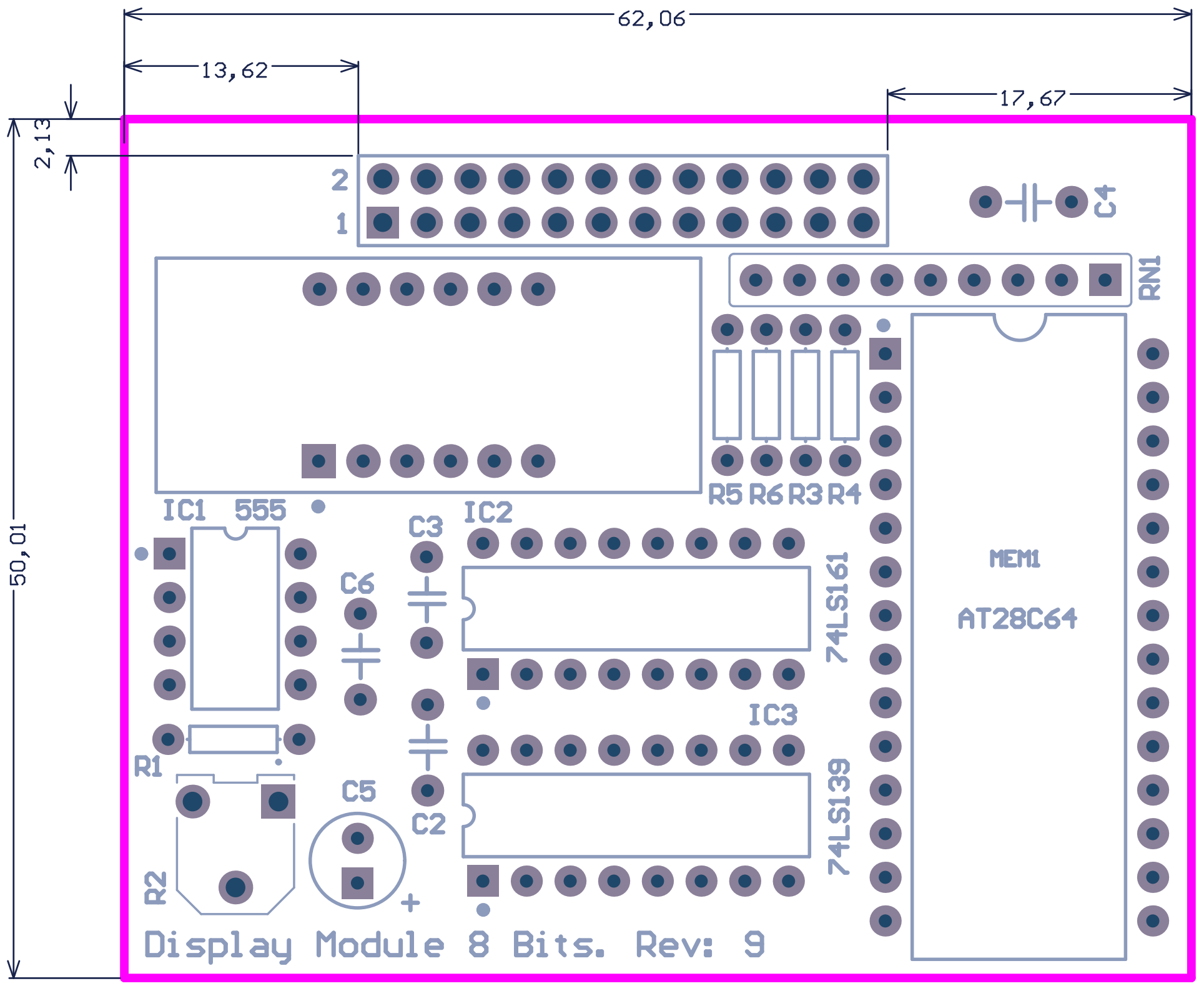
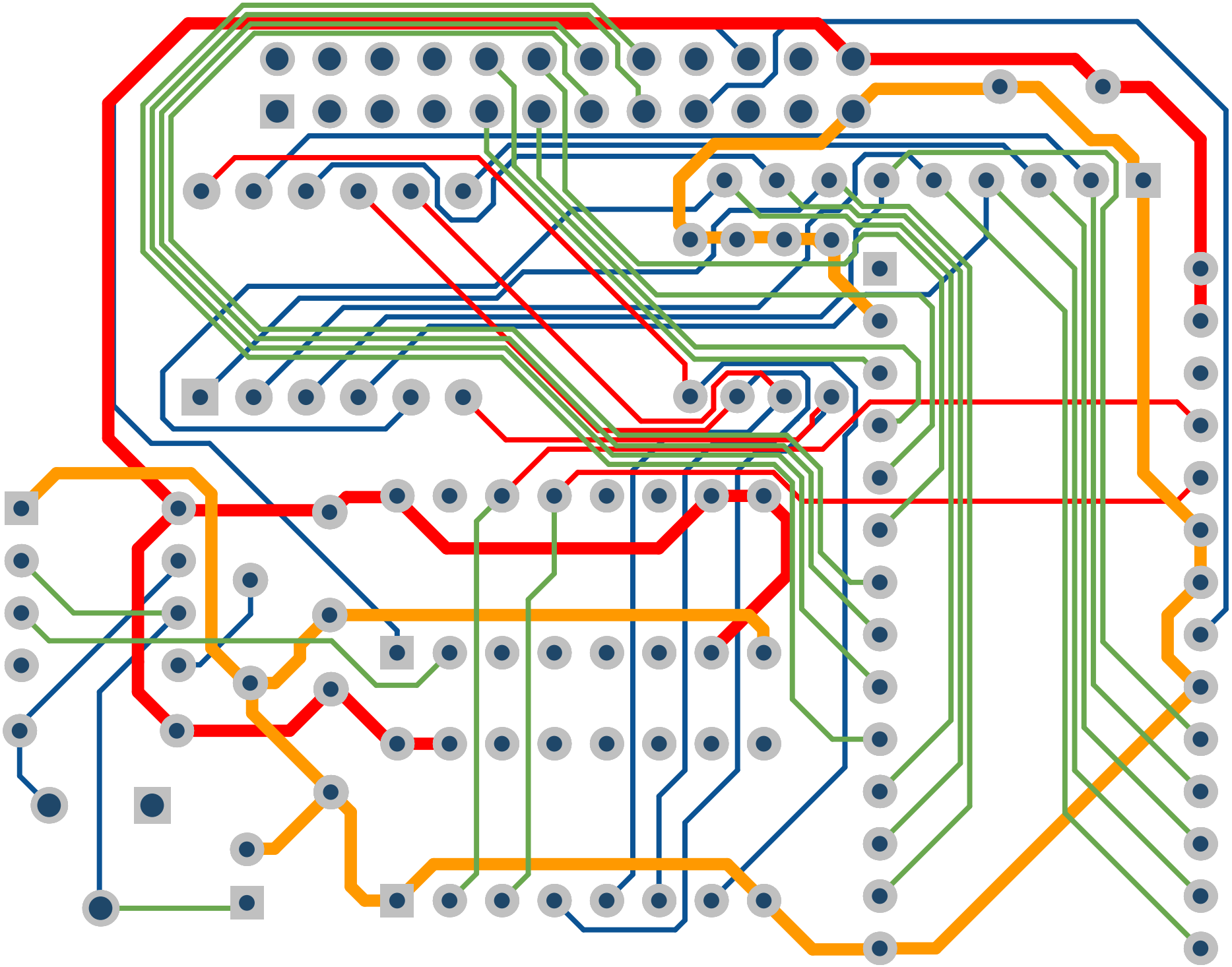

2
1
C4
RN1
R5 R6 R3 R4
IC1 555
C3
IC2
C6
74LS161
IC3
R1
C5
C2
74LS139
Display Module 8 Bits. Rev: 9


INPUT Data Connector
P1
I0 I1 I2 I3 I4 I5 I6 I7 I8 I9 I10 I11 I12 I13 I14 I15 UN /RST CLK /CLK
GND VCC
This counter, dont need load and allways is counting. So CET, CET is connected to VCC and /PE is connected too.
IC2
PE CLK CLR TC CET CEP A QA B QB C QC D QD VCC GND
74LS161
Enable only channel 1 (GND)
IC3
G1 G2 1A 1B 2A 2B 1Y0 1Y1 1Y2 1Y3 2Y0 2Y1 2Y2 2Y3 VCC GND
74LS139
Digit selection must be sinchronizing with the decoding addresses A8,A9 and the decode programing, in our case selection goes from Y3 (Dig1) to Y0 (Dig4)
R5 R6 R3 R4 330Ω
DS1
DIG 4 DIG 3 DIG 2 DIG 1 G F E DP D C B A
RN1
220Ω
CLOCK Section
IC1
TRIG OUT CV DISCH RST GND THR VCC
555
R1 1K
R2 500K
Clock Speed Regulator
C5 0.47µF
C6 10nF
Counts operation goes from QA to QD. QA is less significative
Digit Decoder Address Bits
R2 can be replaced by a low value resistor like 100-200Ω to remove the speed control of the digit switch.
MEM1
I15 I14 I13 I12 I11 I10 I9 I8 A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 VCC CE OE WE I/O0 I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 NC NC GND
AT28C64
Unsigned Signal UN
"UN" signal sets the behavior of display between 256 or +-128. Using this signal as an address bit to addressing the decoding block
C2 100nF C3 100nF C4 100nF
Decoupling Capacitors
Project: myCPU Decimal Display 4 Digit 8 bit
Revision: 9
Date: 04/11/2021
Author: Rafa Hernández


62,06
13,62
17,67
2,13
50,01
2
1
C4
RN1
R5
R6
R3
R4
IC1
555
C3
IC2
C6
74LS161
MEM1
AT28C64
IC3
R1
C5
C2
74LS139
R2
+
Display Module 8 Bits. Rev: 9



Bill of Materials

Designator	Description	Value	Q
C2, C3, C4	Ceramic or tantalum capacitor	100nF	3
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	Resistor axial	330Ω	4
RN1	Resistor array 8 elements,9 pins	220Ω	1

Assembly List

Desig.	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
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
RN1	Resistor array 8 elements,9 pins	220Ω