Automatic charger.

POWER BOARD

220V

FU1

BR1 RL2207 X4

R5 1M
R6 1M

EC2 47uF 400V

D5 RS1M

R9 200k
R10 200k
D6 RS1M
C3 10nF 400V 2G103J

TR1

R11 27R 2Wt

CY2 1nF

CY1 2.2nF

Q1 5N60 600V 5A

R3 47
R7 10k
R4 470
R8 0.38R 2Wt

R2 10

U1 685003
EC1 22uF 50V
C2
R1 100k
C1

U2 EL817C
C E A K

D7 MBR20150SCT 150V 10A

EC3 1000uF 25V

M1 FAN MOTOR

R23 27R 1Wt

Q4 (Y1)
R22 3k

R24 1.5k
R19 10k
Q3 AOD4189
1N4148(T4) D2
R14 0.05R 2Wt

R18 100
R28 3k
Q5 2N7002
R27 10k
R25 2k

J2 U-OUT

R14: 6.2A: 310mV; 1.92Wt

CON1
1 DC-DC
2 U-OUT
3 U-SHUNT
4 ON-OUT
5 FAN
6 DAC-TL431
7 GND

R12 470
R15 10k
R13 1k
R16 1.8k

Q2 TL431

R17 4.7k
R20 220k

C6
C7
C8

R26 3.3k
R21 1k

Uncorrected 8.2V setting. With full correction 15.8V setting. With U_Out 14.2V PWM = 47%.

CPU BOARD +VCC

UA78M05C
VI VO GND
DS1
CS2

CON2
1 DC-DC
2 U-OUT
3 U-SHUNT
4 ON-OUT
5 FAN
6 DAC-TL431
7 GND

RS1 10k
RS2 1k
RS3 2.7k
RS4 1k
CS4
RS5 2.7k
RS6 1k
CS5
CPU-15
CPU-17

Q7 BC846(1B)
RS21 1k
TIM2_CH3

DC-DC
LM321 U3
RS19 2k
RS20 2k
CS3
CPU-19

CAP
STM-SWIM
1 RST
2 SWIM CPU-42
3
1uF

+VCC
RS22 10k
RT1 10k
CPU-18
TIM2_CH3

RST
CAP

DD2 STM8S105C4T6
1 NRST
2 PA1
3 PA2
4 VSSIO
5 VSS
6 Vcap
7 VDD
8 VDDIO_1
9 PA3
10 PA4
11 PA5
12 PA6
13 VDDA
14 VSSA
15 PB7/A7   CPU-15
16 PB6/A6   CPU-16
17 PB5/A5   CPU-17
18 PB4/A4   CPU-18
19 PB3/A3   CPU-19
20 PB2/A2
21 PB1/A1   CPU-21
22 PB0/A0
23 PE7/A8   CPU-23
24 PE6/A9   CPU-24

48 PD7   CPU-48
47 PD6   CPU-47
46 PD5   CPU-46
45 PD4   CPU-45
44 PD3   CPU-44
43 PD2   CPU-43
42 PD1 SWIM CPU-42
41 PD0   CPU-41
40 PE0   CPU-40
39 PE1
38 PE2
37 PE3   CPU-37
36 PG1   CPU-36
35 PG0   CPU-35
34 PC7   CPU-34
33 PC6   CPU-33
32 VDDIO_2
31 VSSIO_2
30 PC5
29 PC4
28 PC3
27 PC2
26 PC1
25 PE5   CPU-25

SWIM
VDDIO_2
VSSIO_2

+VCC

H1 7SEG-MPX4-CA+_SLS

RS11 330
RS12
RS13
RS14
RS15
RS16
RS17
RS18

A B C D E F G DP
11 7 4 2 1 10 5 3

CPU-45
CPU-47
CPU-40
CPU-42
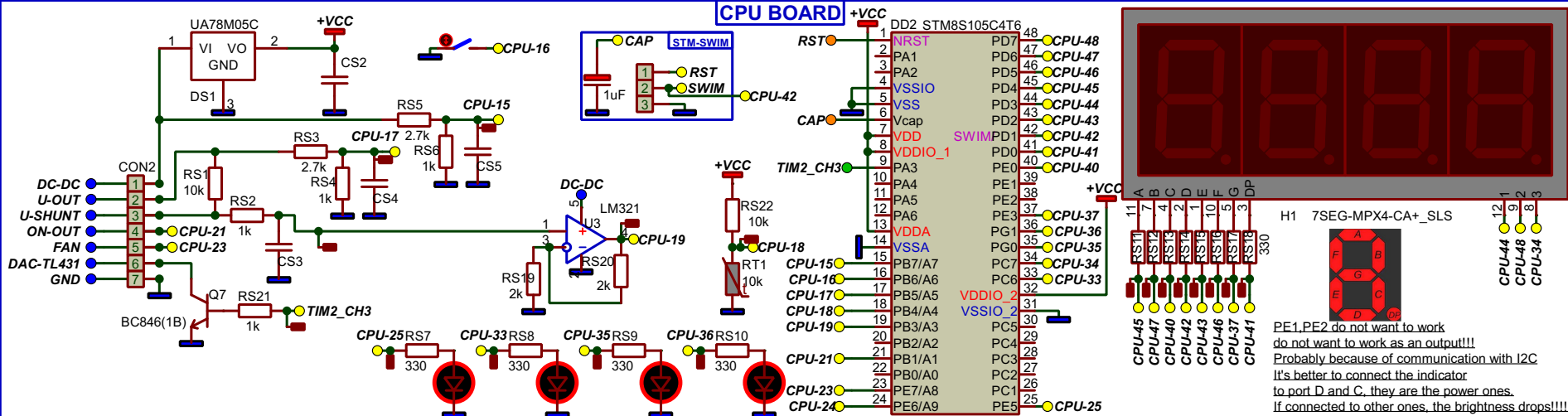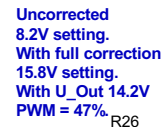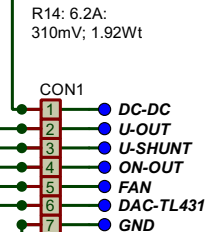CPU-43
CPU-46
CPU-37
CPU-41

12 9 8
CPU-44 CPU-48 CPU-34

F A B
G
E D C DP

PE1,PE2 do not want to work
do not want to work as an output!!!
Probably because of communication with I2C
It's better to connect the indicator
to port D and C, they are the power ones.
If connected to other ones, the brightness drops!!!!

CPU-16
CS2

CPU-25 RS7 330
CPU-33 RS8 330
CPU-35 RS9 330
CPU-36 RS10 330

CPU-21
CPU-23
CPU-24