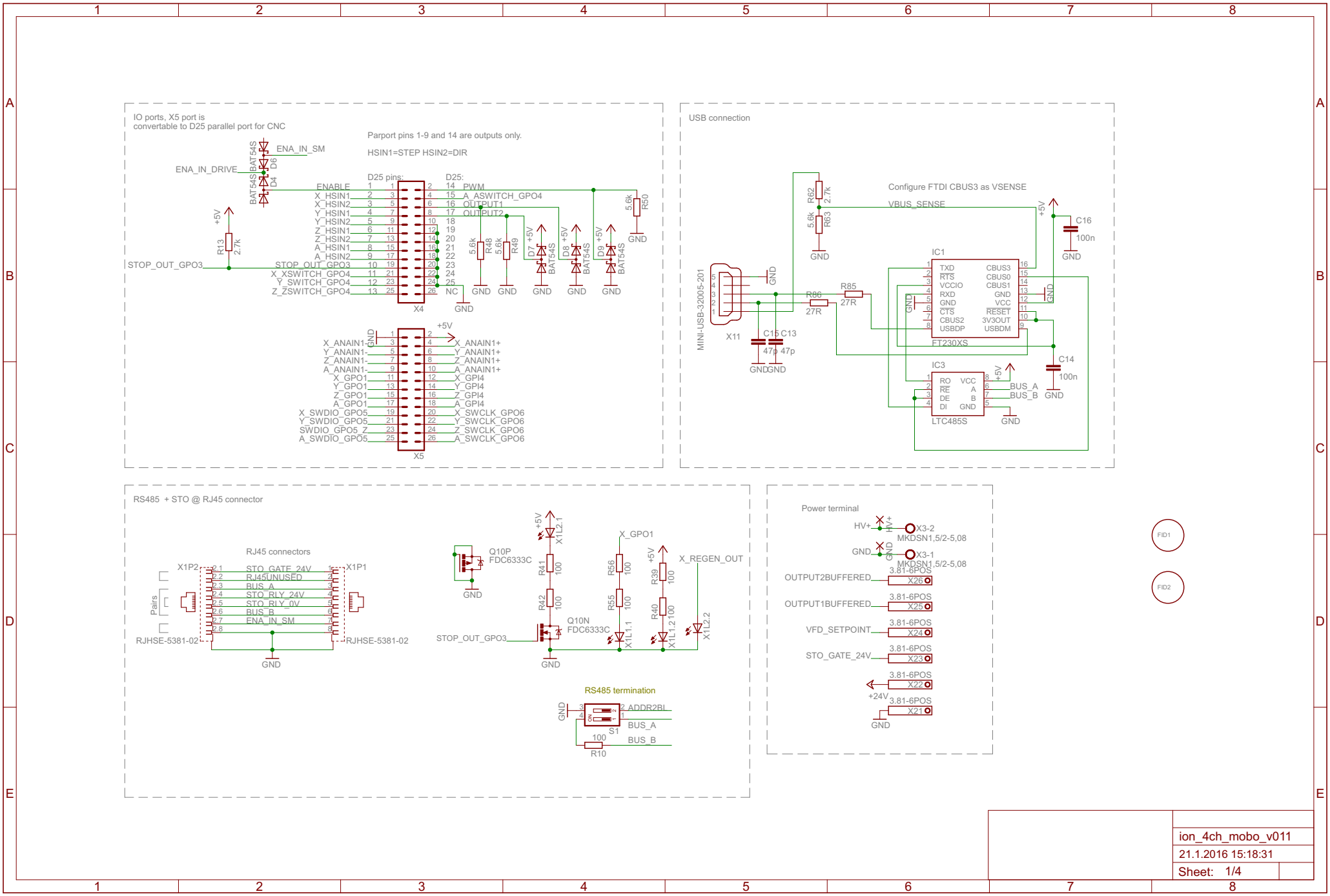

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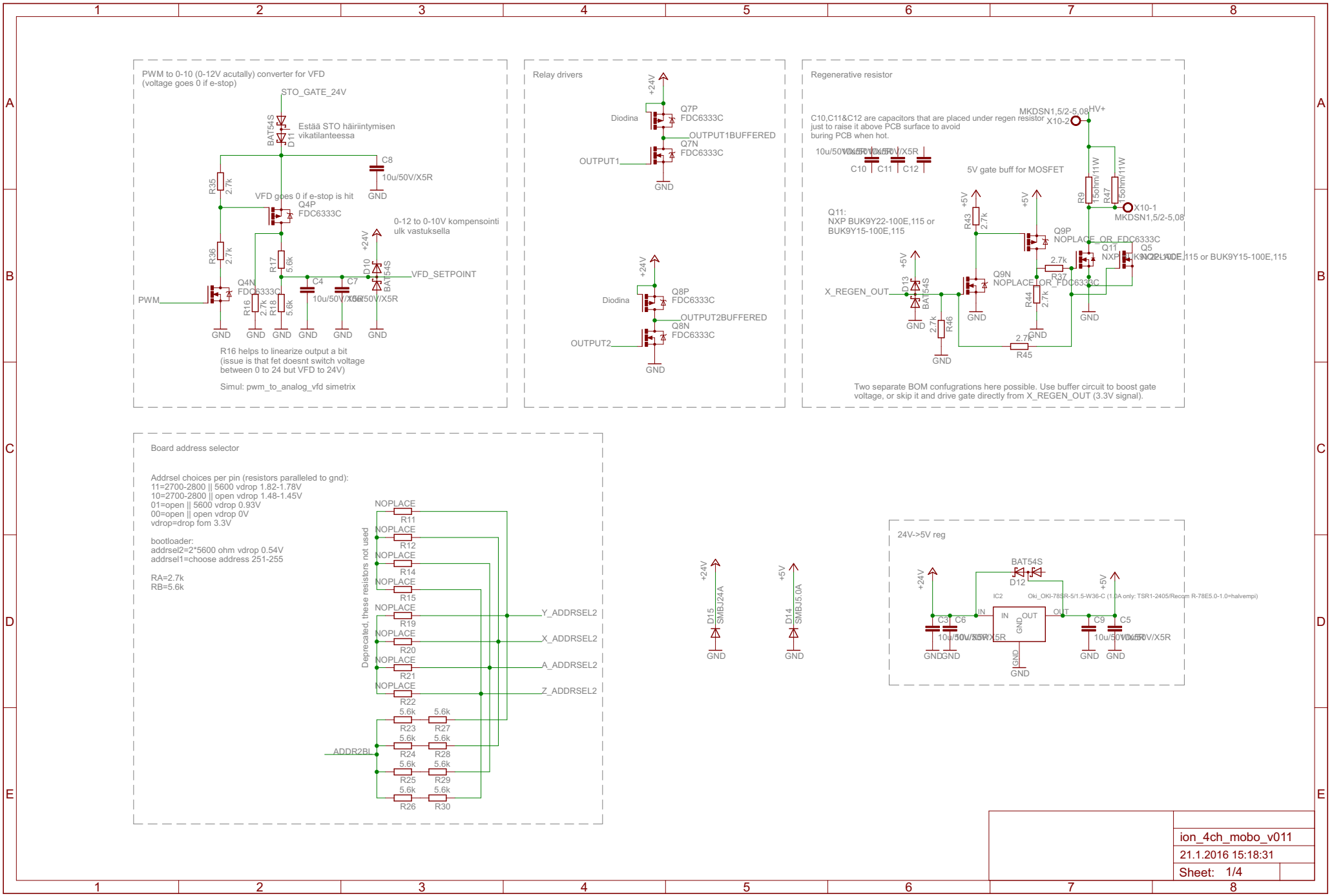
PWM to 0-10 (0-12V acutally) converter for VFD
(voltage goes 0 if e-stop)
STO_GATE_24V
BAT54S
D11
Estää STO häiriintymisen vikatilanteessa
C8
10u/50V/X5R
GND
R35
2.7k
VFD goes 0 if e-stop is hit
Q4P
FDC6333C
0-12 to 0-10V kompensointi ulk vastuksella
+24V
D10
BAT54S
VFD_SETPOINT
R36
2.7k
R17
5.6k
C4
C7
10u/50V/X5R
10u/50V/X5R
Q4N
FDC6333C
PWM
R16
2.7k
R18
5.6k
GND GND GND GND GND GND
R16 helps to linearize output a bit
(issue is that fet doesnt switch voltage
between 0 to 24 but VFD to 24V)
Simul: pwm_to_analog_vfd simetrix
Relay drivers
+24V
Diodina
Q7P
FDC6333C
OUTPUT1BUFFERED
Q7N
FDC6333C
OUTPUT1
GND
+24V
Diodina
Q8P
FDC6333C
OUTPUT2BUFFERED
Q8N
FDC6333C
OUTPUT2
GND
Regenerative resistor
C10,C11&C12 are capacitors that are placed under regen resistor
just to raise it above PCB surface to avoid
buring PCB when hot.
MKDSN1,5/2-5,08
HV+
X10-2
10u/50V/X5R
C10 C11 C12
5V gate buff for MOSFET
R9
150hm/11W
R47
150hm/11W
X10-1
MKDSN1,5/2-5,08
Q11:
NXP BUK9Y22-100E,115 or
BUK9Y15-100E,115
+5V
R43
2.7k
+5V
Q9P
NOPLACE_OR_FDC6333C
Q11
Q5
NXP BUK9Y22-100E,115 or BUK9Y15-100E,115
2.7k
R37
Q9N
NOPLACE_OR_FDC6333C
+5V
D13
BAT54S
X_REGEN_OUT
GND
2.7k
R46
GND
R44
2.7k
GND
GND
2.7k
R45
GND
Two separate BOM confugrations here possible. Use buffer circuit to boost gate
voltage, or skip it and drive gate directly from X_REGEN_OUT (3.3V signal).
Board address selector
Addrsel choices per pin (resistors paralleled to gnd):
11=2700-2800 || 5600 vdrop 1.82-1.78V
10=2700-2800 || open vdrop 1.48-1.45V
01=open || 5600 vdrop 0.93V
00=open || open vdrop 0V
vdrop=drop fom 3.3V
bootloader:
addrsel2=2*5600 ohm vdrop 0.54V
addrsel1=choose address 251-255
RA=2.7k
RB=5.6k
Deprecated, these resistors not used
NOPLACE R11
NOPLACE R12
NOPLACE R14
NOPLACE R15
NOPLACE R19
NOPLACE R20
NOPLACE R21
NOPLACE R22
Y_ADDRSEL2
X_ADDRSEL2
A_ADDRSEL2
Z_ADDRSEL2
5.6k R23
5.6k R27
5.6k R24
5.6k R28
5.6k R25
5.6k R29
5.6k R26
5.6k R30
ADDR2BL
+24V
D15
SMBJ24A
GND
+5V
D14
SMBJ5.0A
GND
24V->5V reg
BAT54S
D12
+24V
+5V
IC2
Oki_OKI-78SR-5/1.5-W36-C (1.0A only: TSR1-2405/Recom R-78E5.0-1.0=halvempi)
IN
OUT
GND
C3 C6
10u/50V/X5R
C9 C5
10u/50V/X5R
GND GND GND GND GND
ion_4ch_mobo_v011
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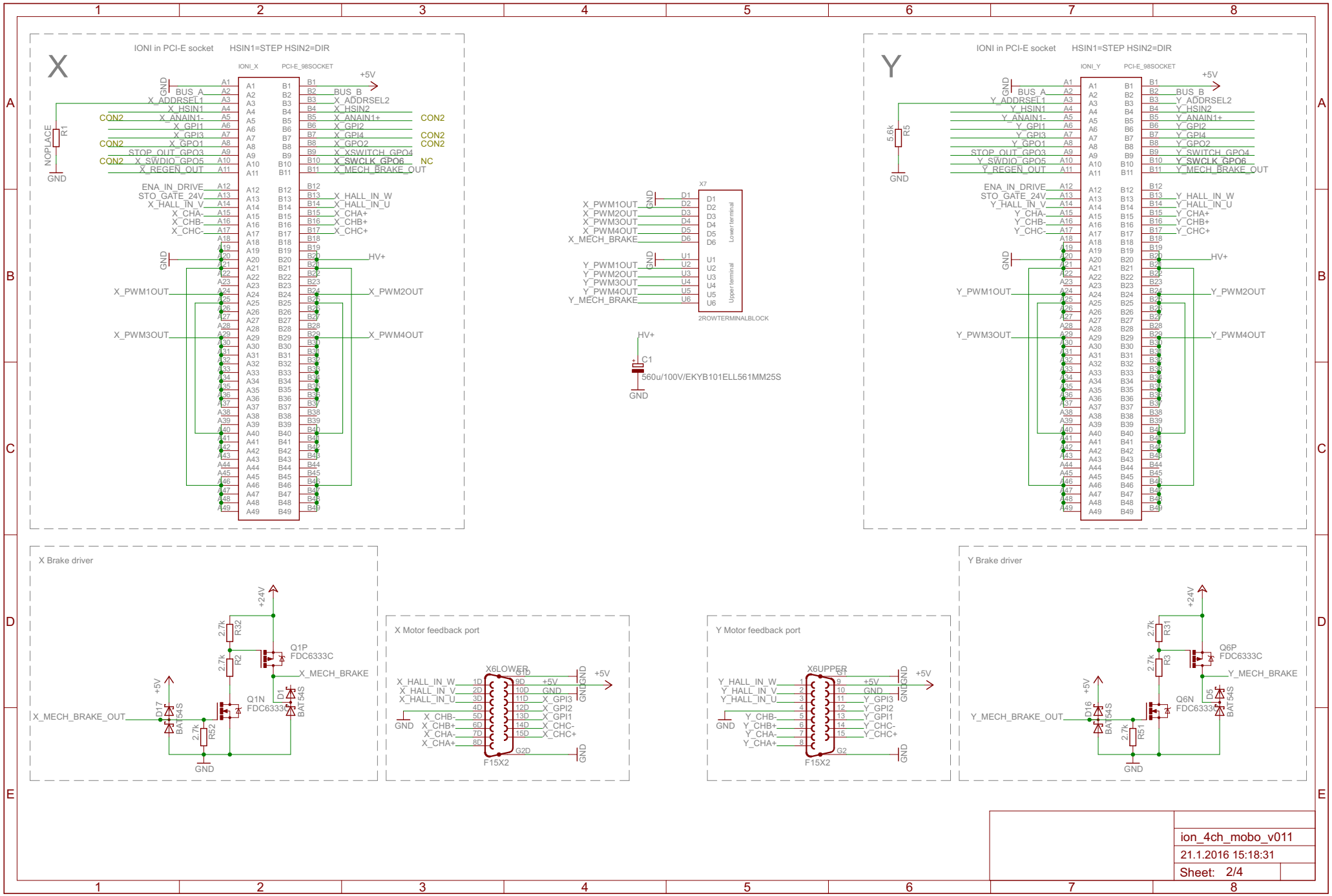

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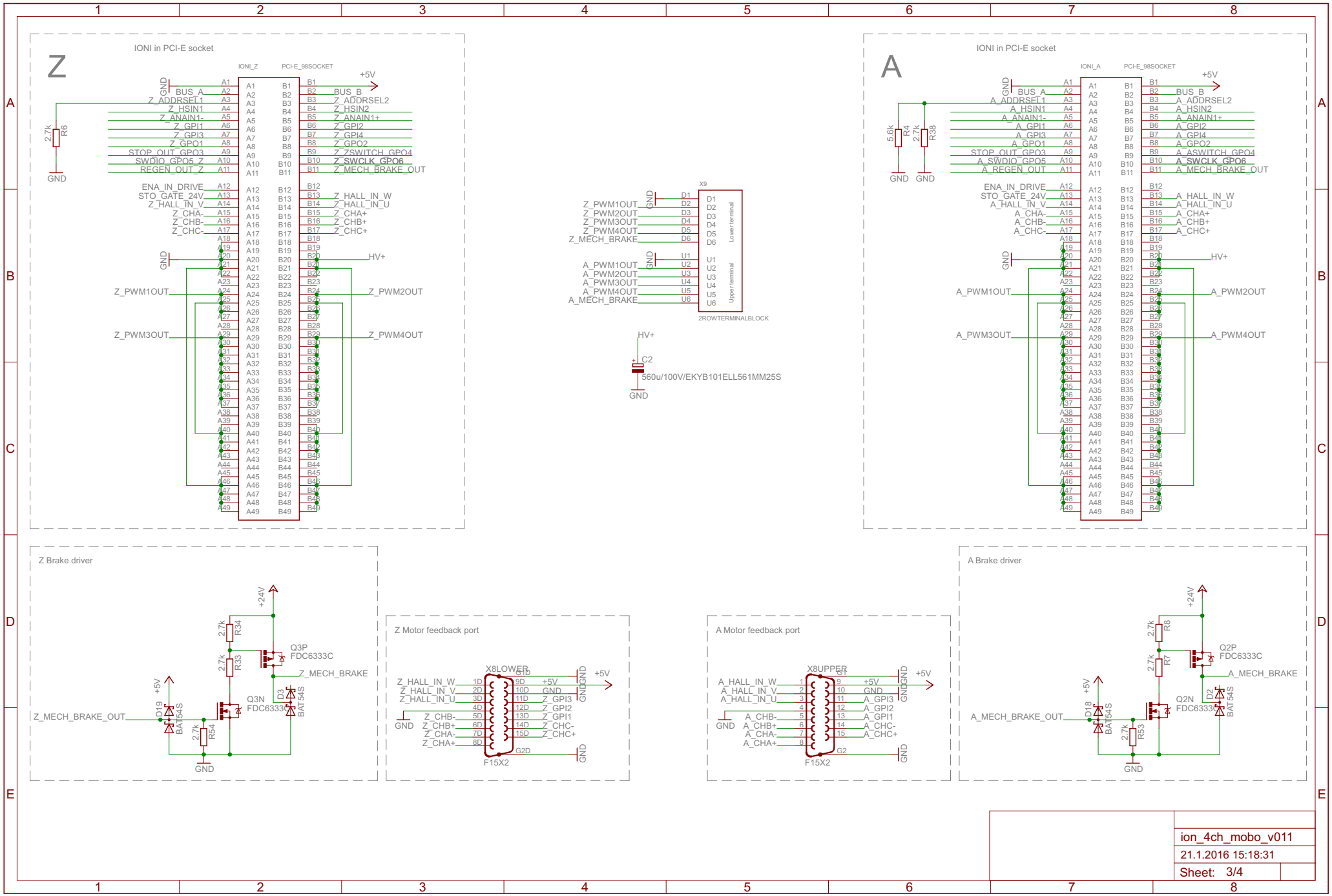

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