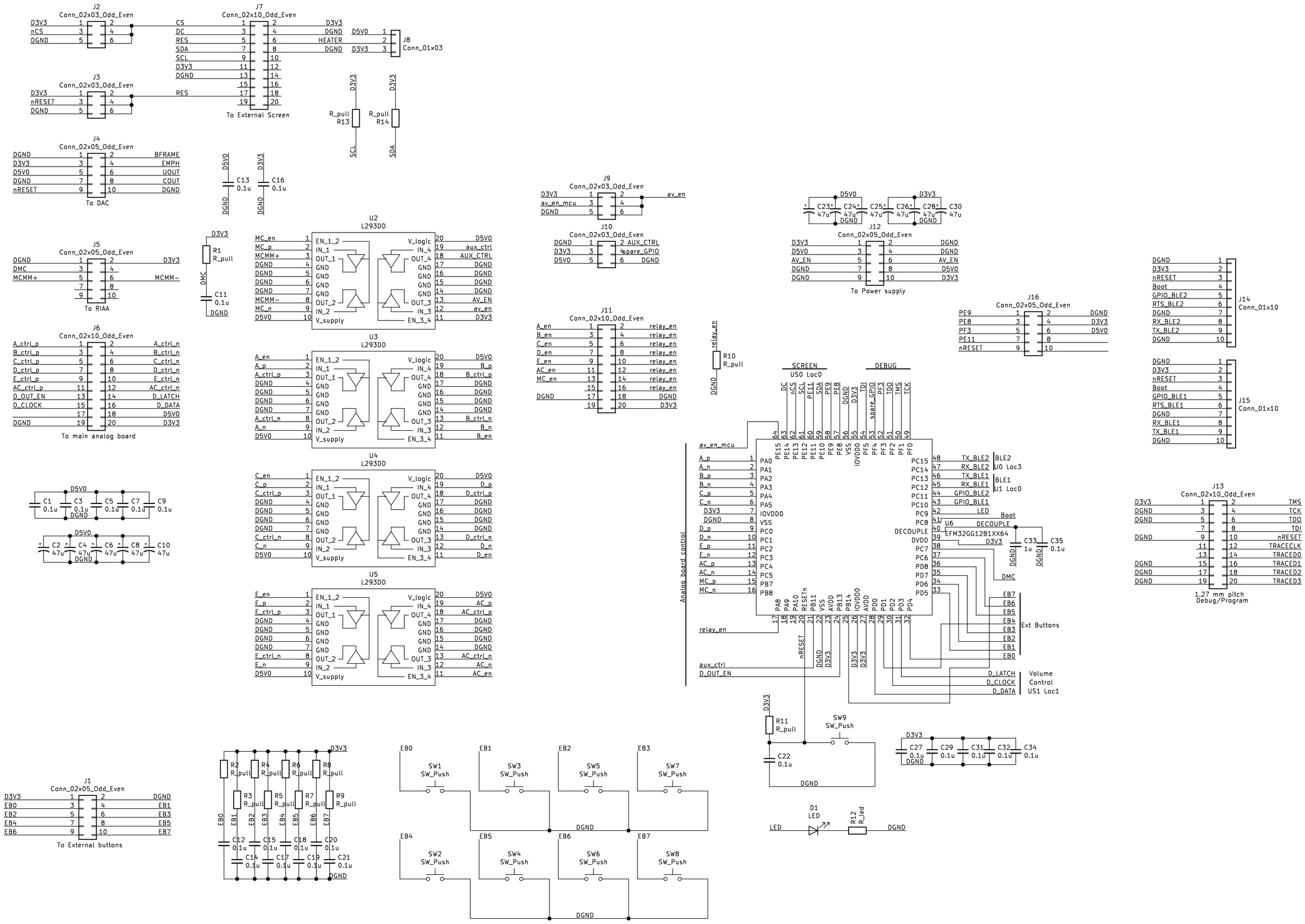
J2
Conn_02x03_Odd_Even
D3V3 1 2
nCS 3 4
DGND 5 6
J7
Conn_02x10_Odd_Even
CS 1 2 D3V3
DC 3 4 DGND
RES 5 6 HEATER
SDA 7 8 DGND
SCL 9 10
D3V3 11 12
DGND 13 14
15 16
RES 17 18
19 20
To External Screen
D5V0 1
HEATER 2
DGND D3V3 3
J8
Conn_01x03
J3
Conn_02x03_Odd_Even
D3V3 1 2
nRESET 3 4
DGND 5 6
R_pull
R13
R14
SCL
SDA
J4
Conn_02x05_Odd_Even
DGND 1 2 BFRAME
D3V3 3 4 EMPH
D5V0 5 6 UOUT
DGND 7 8 COUT
nRESET 9 10 DGND
To DAC
C13
0.1u
C16
0.1u
J9
Conn_02x03_Odd_Even
D3V3 1 2 av_en
av_en_mcu 3 4
DGND 5 6
J10
Conn_02x03_Odd_Even
DGND 1 2 AUX_CTRL
D3V3 3 4 spare_GPIO
D5V0 5 6 DGND
C23 47u
C24 47u
C25 47u
C26 47u
C28 47u
C30 47u
J12
Conn_02x05_Odd_Even
D3V3 1 2 DGND
D5V0 3 4 DGND
AV_EN 5 6 AV_EN
DGND 7 8 D5V0
DGND 9 10 D3V3
To Power supply
J5
Conn_02x05_Odd_Even
DGND 1 2 D3V3
DMC 3 4
MCMM+ 5 6 MCMM−
7 8
9 10
To RIAA
R1
R_pull
C11
0.1u
U2
L293DD
MC_en 1 EN_1_2
MC_p 2 IN_1
MCMM+ 3 OUT_1
DGND 4 GND
DGND 5 GND
DGND 6 GND
DGND 7 GND
MCMM− 8 OUT_2
MC_n 9 IN_2
D5V0 10 V_supply
V_logic 20 D5V0
IN_4 19 aux_ctrl
OUT_4 18 AUX_CTRL
GND 17 DGND
GND 16 DGND
GND 15 DGND
GND 14 DGND
OUT_3 13 AV_EN
IN_3 12 av_en
EN_3_4 11 D3V3
J6
Conn_02x10_Odd_Even
A_ctrl_p 1 2 A_ctrl_n
B_ctrl_p 3 4 B_ctrl_n
C_ctrl_p 5 6 C_ctrl_n
D_ctrl_p 7 8 D_ctrl_n
E_ctrl_p 9 10 E_ctrl_n
AC_ctrl_p 11 12 AC_ctrl_n
D_OUT_EN 13 14 D_LATCH
D_CLOCK 15 16 D_DATA
17 18 D5V0
DGND 19 20 D3V3
To main analog board
U3
L293DD
A_en 1 EN_1_2
A_p 2 IN_1
A_ctrl_p 3 OUT_1
DGND 4 GND
DGND 5 GND
DGND 6 GND
DGND 7 GND
A_ctrl_n 8 OUT_2
A_n 9 IN_2
D5V0 10 V_supply
V_logic 20 D5V0
IN_4 19 B_p
OUT_4 18 B_ctrl_p
GND 17 DGND
GND 16 DGND
GND 15 DGND
GND 14 DGND
OUT_3 13 B_ctrl_n
IN_3 12 B_n
EN_3_4 11 B_en
U4
L293DD
C_en 1 EN_1_2
C_p 2 IN_1
C_ctrl_p 3 OUT_1
DGND 4 GND
DGND 5 GND
DGND 6 GND
DGND 7 GND
C_ctrl_n 8 OUT_2
C_n 9 IN_2
D5V0 10 V_supply
V_logic 20 D5V0
IN_4 19 D_p
OUT_4 18 D_ctrl_p
GND 17 DGND
GND 16 DGND
GND 15 DGND
GND 14 DGND
OUT_3 13 D_ctrl_n
IN_3 12 D_n
EN_3_4 11 D_en
U5
L293DD
E_en 1 EN_1_2
E_p 2 IN_1
E_ctrl_p 3 OUT_1
DGND 4 GND
DGND 5 GND
DGND 6 GND
DGND 7 GND
E_ctrl_n 8 OUT_2
E_n 9 IN_2
D5V0 10 V_supply
V_logic 20 D5V0
IN_4 19 AC_p
OUT_4 18 AC_ctrl_p
GND 17 DGND
GND 16 DGND
GND 15 DGND
GND 14 DGND
OUT_3 13 AC_ctrl_n
IN_3 12 AC_n
EN_3_4 11 AC_en
J11
Conn_02x10_Odd_Even
A_en 1 2 relay_en
B_en 3 4 relay_en
C_en 5 6 relay_en
D_en 7 8 relay_en
E_en 9 10 relay_en
AC_en 11 12 relay_en
MC_en 13 14 relay_en
15 16 relay_en
DGND 17 18 DGND
19 20 D3V3
J16
Conn_02x05_Odd_Even
PE9 1 2 DGND
PE8 3 4 D3V3
PF3 5 6 D5V0
PE11 7 8
nRESET 9 10
J14
Conn_01x10
DGND 1
D3V3 2
nRESET 3
Boot 4
GPIO_BLE2 5
RTS_BLE2 6
DGND 7
RX_BLE2 8
TX_BLE2 9
DGND 10
J15
Conn_01x10
DGND 1
D3V3 2
nRESET 3
Boot 4
GPIO_BLE1 5
RTS_BLE1 6
DGND 7
RX_BLE1 8
TX_BLE1 9
DGND 10
R10
R_pull
relay_en
DGND
SCREEN
US0 Loc0
DEBUG
DC nCS SCL PE11 SDA PE9 PE8 DGND D3V3 TDI spare_GPIO PF3 TDO TMS TCK
av_en_mcu
A_p 1 PA0
A_n 2 PA1
B_p 3 PA2
B_n 4 PA3
C_p 5 PA4
C_n 6 PA5
D3V3 7 IOVDD0
DGND 8 VSS
D_p 9 PC0
D_n 10 PC1
E_p 11 PC2
E_n 12 PC3
AC_p 13 PC4
AC_n 14 PC5
MC_p 15 PB7
MC_n 16 PB8
PC15 48 TX_BLE2 BLE2
PC14 47 RX_BLE2 U0 Loc3
PC13 46 TX_BLE1 BLE1
PC12 45 RX_BLE1 U1 Loc0
PC11 44 GPIO_BLE2
PC10 43 GPIO_BLE1
PC9 42 LED
PC8 41 Boot
DECOUPLE 40 DECOUPLE
DVDD 39
PC7 38
PC6 37
PD8 36
PD7 35
PD6 34
PD5 33
U6
EFM32GG12B1XX64
D3V3
C33 1u
C35 0.1u
DGND
DMC
Analog board control
PE15 PE14 PE13 PE12 PE11 PE10 PE9 PE8 VSS IOVDD0 PF5 PF4 PF3 PF2 PF1 PF0
PA8 PA9 PA10 RESETn PB11 VSS AVDD PB13 PB14 IOVDD0 AVDD PD0 PD1 PD2 PD3 PD4
relay_en
nRESET
DGND D3V3
D3V3 D3V3
aux_ctrl
D_OUT_EN
EB7
EB6
EB5
EB4
EB3
EB2
EB1
EB0
Ext Buttons
D_LATCH
D_CLOCK
D_DATA
Volume
Control
US1 Loc1
J13
Conn_02x10_Odd_Even
D3V3 1 2 TMS
DGND 3 4 TCK
DGND 5 6 TDO
7 8 TDI
DGND 9 10 nRESET
11 12 TRACECLK
13 14 TRACED0
DGND 15 16 TRACED1
DGND 17 18 TRACED2
DGND 19 20 TRACED3
1.27 mm pitch
Debug/Program
D5V0
C1 0.1u
C3 0.1u
C5 0.1u
C7 0.1u
C9 0.1u
DGND
C2 47u
C4 47u
C6 47u
C8 47u
C10 47u
R11
R_pull
SW9
SW_Push
C22
0.1u
D3V3
C27 0.1u
C29 0.1u
C31 0.1u
C32 0.1u
C34 0.1u
J1
Conn_02x05_Odd_Even
D3V3 1 2 DGND
EB0 3 4 EB1
EB2 5 6 EB3
EB4 7 8 EB5
EB6 9 10 EB7
To External buttons
R2 R_pull
R4 R_pull
R6 R_pull
R8 R_pull
R3 R_pull
R5 R_pull
R7 R_pull
R9 R_pull
C12 0.1u
C15 0.1u
C18 0.1u
C20 0.1u
C14 0.1u
C17 0.1u
C19 0.1u
C21 0.1u
SW1 SW_Push
SW3 SW_Push
SW5 SW_Push
SW7 SW_Push
SW2 SW_Push
SW4 SW_Push
SW6 SW_Push
SW8 SW_Push
D1
LED
R12
R_led