edges_v20_1

File: edges_v20_1.kicad_sch

edges_v20_2

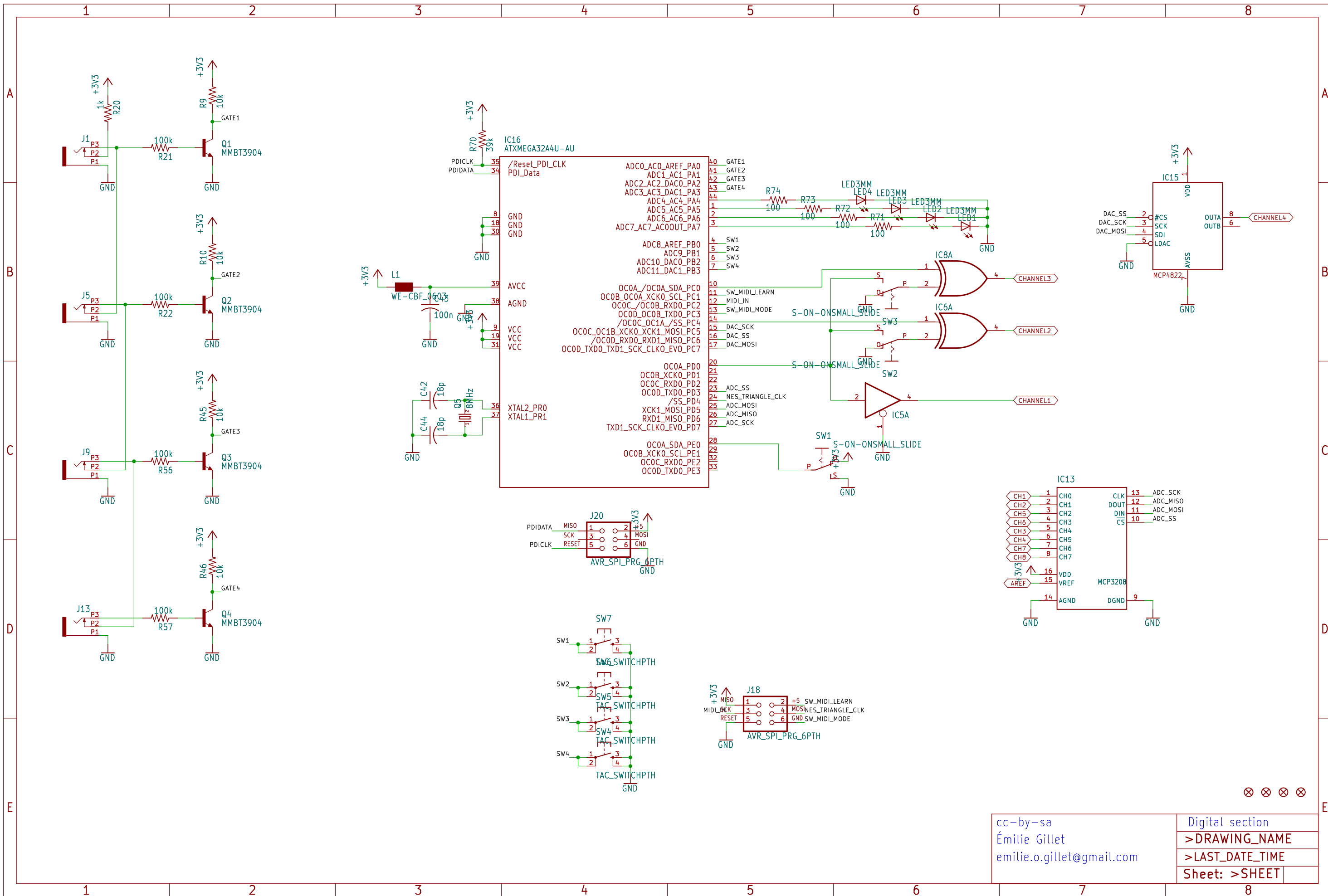File: edges_v20_2.kicad_sch

edges_v20_3

File: edges_v20_3.kicad_sch

Digital section

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IC16 ATXMEGA32A4U-AU

+3V3

R70 39k

PDICLK 35 /Reset_PDI_CLK
PDIDATA 34 PDI_Data

ADC0_AC0_AREF_PA0 40 GATE1
ADC1_AC1_PA1 41 GATE2
ADC2_AC2_DAC0_PA2 42 GATE3
ADC3_AC3_DAC1_PA3 43 GATE4
ADC4_AC4_PA4 44
ADC5_AC5_PA5 1
ADC6_AC6_PA6 2
ADC7_AC7_AC0OUT_PA7 3

GND 8
GND 18
GND 30

ADC8_AREF_PB0 4 SW1
ADC9_PB1 5 SW2
ADC10_DAC0_PB2 6 SW3
ADC11_DAC1_PB3 7 SW4

AVCC 39
AGND 38

VCC 9
VCC 19
VCC 31

OC0A_/OC0A_SDA_PC0 10 SW_MIDI_LEARN
OC0B_OC0A_XCK0_SCL_PC1 11 MIDI_IN
OC0C_/OC0B_RXD0_PC2 12 SW_MIDI_MODE
OC0D_OC0B_TXD0_PC3 13
/OC0D_OC1A_/SS_PC4 14 DAC_SCK
OC0C_OC1B_XCK0_XCK1_MOSI_PC5 15 DAC_SS
/OC0D_RXD0_RXD1_MISO_PC6 16 DAC_MOSI
OC0D_TXD0_TXD1_SCK_CLKO_EVO_PC7 17

OC0A_PD0 20
OC0B_XCK0_PD1 21
OC0C_RXD0_PD2 22
OC0D_TXD0_PD3 23 ADC_SS
/SS_PD4 24 NES_TRIANGLE_CLK
XCK1_MOSI_PD5 25 ADC_MOSI
RXD1_MISO_PD6 26 ADC_MISO
TXD1_SCK_CLKO_EVO_PD7 27 ADC_SCK

OC0A_SDA_PE0 28
OC0B_XCK0_SCL_PE1 29
OC0C_RXD0_PE2 32
OC0D_TXD0_PE3 33

XTAL2_PR0 36
XTAL1_PR1 37

L1 WE-CBF_0603
+3V3

100n GND

C42 18p
C44 18p
Q5 8MHz 8MHz
GND

GND

R74 100
R73 100
R72 100
R71 100

LED3MM LED4
LED3MM LED3
LED3MM LED2
LED3MM LED1

GND

IC8A
S
P
0
1 / 4 CHANNEL3
SW_MIDI_LEARN
S-ON-ONSMALL_SLIDE SW3

IC6A
S
P
0
1 / 4 CHANNEL2
S-ON-ONSMALL_SLIDE SW2

2 / 4 CHANNEL1
IC5A
S-ON-ONSMALL_SLIDE
SW1
P
S
+3V3
GND

IC15
+3V3
VDD
DAC_SS 2 #CS
DAC_SCK 3 SCK OUTA 8 CHANNEL4
DAC_MOSI 4 SDI OUTB 6
5 LDAC
AVSS
GND
MCP4822

IC13
CH1 1 CH0 CLK 13 ADC_SCK
CH2 2 CH1 DOUT 12 ADC_MISO
CH5 3 CH2 DIN 11 ADC_MOSI
CH6 4 CH3 CS 10 ADC_SS
CH3 5 CH4
CH4 6 CH5
CH7 7 CH6
CH8 8 CH7
3V3 16 VDD
AREF 15 VREF
14 AGND DGND 9
GND GND
MCP3208

J20 AVR_SPI_PRG_6PTH
PDIDATA MISO 1 2 +5 +3V3
SCK 3 4 MOSI
PDICLK RESET 5 6 GND

J18 AVR_SPI_PRG_6PTH
+3V3
MISO 1 2 +5 SW_MIDI_LEARN
MIDI_IN MOSI 3 4 MOSI NES_TRIANGLE_CLK
RESET 5 6 GND SW_MIDI_MODE
GND

SW7
SW1 1 3
2 4
TAC_SWITCHPTH

SW6 / SW5
SW2 1 3
2 4
TAC_SWITCHPTH

SW4
SW3 1 3
2 4
TAC_SWITCHPTH

SW4 1 3
2 4
TAC_SWITCHPTH

+3V3
R20 1k
J1 P3 P2 P1
R21 100k
Q1 MMBT3904
GATE1
R9 10k
+3V3
GND

+3V3
J5 P3 P2 P1
R22 100k
Q2 MMBT3904
GATE2
R10 10k
+3V3
GND

+3V3
J9 P3 P2 P1
R56 100k
Q3 MMBT3904
GATE3
R45 10k
+3V3
GND

+3V3
J13 P3 P2 P1
R57 100k
Q4 MMBT3904
GATE4
R46 10k
+3V3
GND

GND

Analog Section
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VCC

R2 10k
R1 2k
C1 470n
GND GND

J2 P3 P2 P1 CV1 GND
J3 P3 P2 P1 FM1 GND
J6 P3 P2 P1 CV2 CV1 GND
J7 P3 P2 P1 FM2 GND
J10 P3 P2 P1 CV3 CV2 GND
J11 P3 P2 P1 FM3 GND
J14 P3 P2 P1 CV4 CV3 GND
J15 P3 P2 P1 FM4 GND

R4 10kB COARSE1 AREF_-10
R31 10kB COARSE2 AREF_-10
R41 10kB COARSE3 AREF_-10
R68 10kB COARSE4 AREF_-10

CV1 R14 100k
COARSE1 R19 200k
R25 200k AREF_-10
C4 100p
R8 24.9k
CH1

CV2 R24 100k
COARSE2 R16 200k
R26 200k AREF_-10
C6 100p
R12 24.9k
CH2

CV3 R50 100k
COARSE3 R55 200k
R61 200k AREF_-10
C23 100p
R44 24.9k
CH3

CV4 R59 100k
COARSE4 R51 200k
R63 200k AREF_-10
C26 100p
R47 24.9k
CH4

FM1 R30 100k
R28 200k AREF_-10
C12 100p
R23 24.9k
CH5

FM2 R29 100k
R27 200k AREF_-10
C10 100p
R17 24.9k
CH6

FM3 R67 100k
R65 200k AREF_-10
C31 100p
R58 24.9k
CH7

FM4 R66 100k
R64 200k AREF_-10
C29 100p
R52 24.9k
CH8

CHANNEL1 C8 10u R15 10k
R11 33k
R6 1k
CHANNEL1_BUFFERED
GND

CHANNEL2 C9 10u R18 10k
R13 33k
R7 1k
CHANNEL2_BUFFERED
GND

CHANNEL3 C25 10u R53 10k
R48 33k
R43 1k
CHANNEL3_BUFFERED
GND

CHANNEL4 C28 10u R60 10k
R54 82k
R49 1k
CHANNEL4_BUFFERED
GND

CHANNEL1_BUFFERED J4 P3 P2 P1 GND
R5 10kB CHANNEL1_RETURN GND

CHANNEL2_BUFFERED J8 P3 P2 P1 GND
R32 10kB CHANNEL2_RETURN GND

CHANNEL3_BUFFERED J12 P3 P2 P1 GND
R42 10kB CHANNEL3_RETURN GND

CHANNEL4_BUFFERED J16 P3 P2 P1 GND
R69 10kB CHANNEL4_RETURN GND

CHANNEL1_RETURN R40 100k
CHANNEL2_RETURN R36 100k
CHANNEL3_RETURN R38 100k
CHANNEL4_RETURN R39 39k
C17 18p
R35 33k
R37 100k
GND
C16 18p
R34 100k
R33 1k
J17 P3 P2 P1 GND
GND

VCC

D2
J19
D3
M05X2PTH
GND
VEE

VCC
D1
IC14
LM1117-3.3
VIN   VOUT
GND
+3V3
C38
47u
C39
47u
C36
100n
GND   GND   GND   GND

1k   +3V3
R62
IC11
LM4040B25
C32
470n
AREF
GND   GND

VEE
300
R3
LM4040 10V
IC1
AREF_-10
C2
470n
GND   GND

VCC
C18
47u
C19
47u
GND
VEE

VCC
V+   V+   V+
C15   C22   C3
100n 100n 100n
V-   V-   V-
C20   C11   C30
100n 100n 100n
GND
VEE

+3V3
C45   C41   C40
100n 100n 100n
GND

+3V3
C37   C35
100n 1u
GND

+3V3
C34   C33
100n 1u
GND

V+   V+   V+   +3V3
C27   C7   C24   C5
100n 100n 100n 100n
V-   V-   V-
GND

VCC   VCC   VCC   +3V3
IC6B IC8B IC5B
C14   C21   C13
100n 100n 100n
GND   GND   GND
GND

PSU
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