Power supply

AA2380v1_Power.sch

Board digital I/O

AA2380v1_IO.sch

Analog front end

AA2380v1_AFE.sch

CPLD & logic interface

AA2380v1_LOGIC.sch

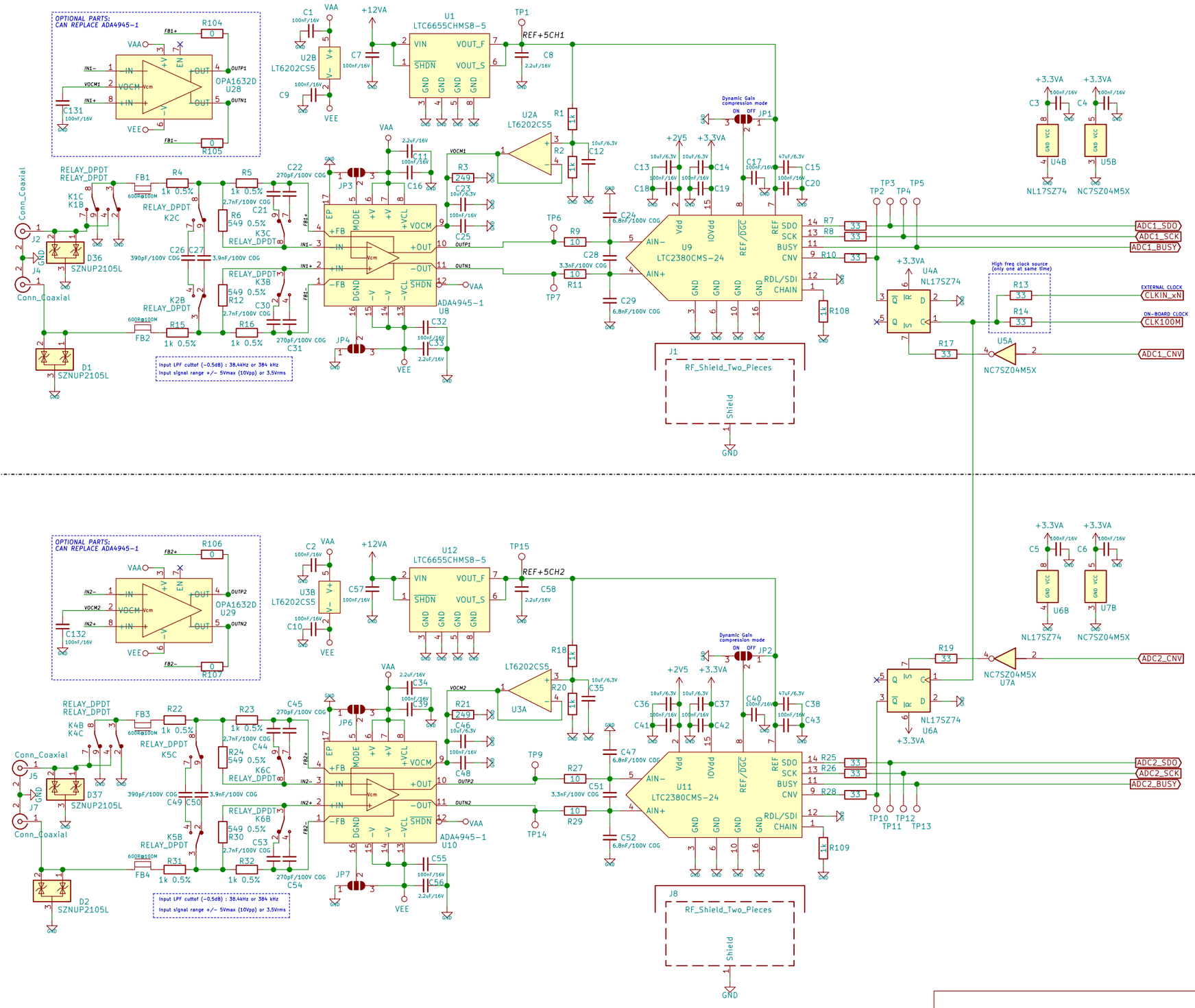
Hierarchical view
Stand alone dual channels SAR ADCs board
Open Source Versatile Analyzer
OnE Audio PRojects

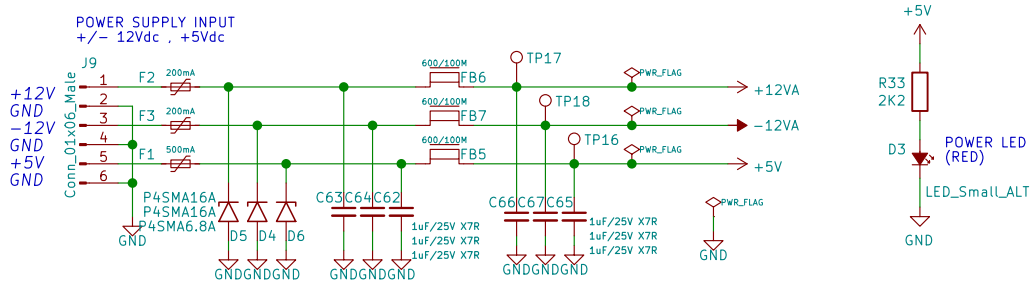
OPEN HARDWARE

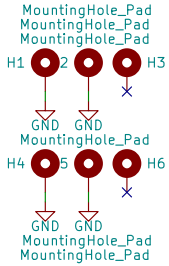
Sheet: /
File: AA2380V1.sch

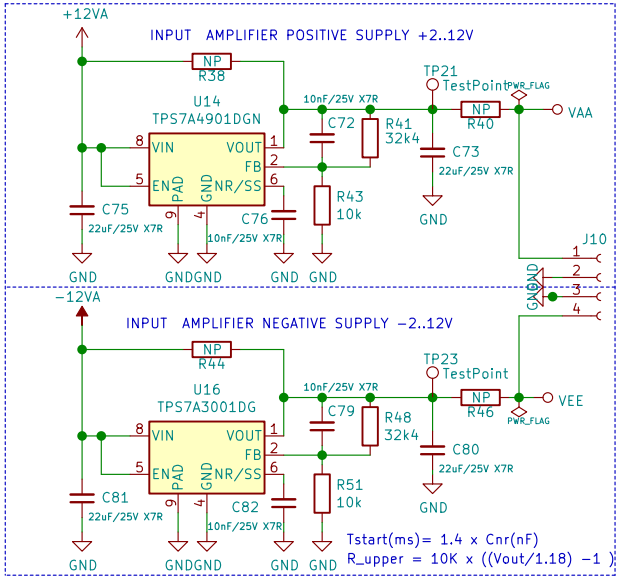
Title: AA2380 OSVA ADC board

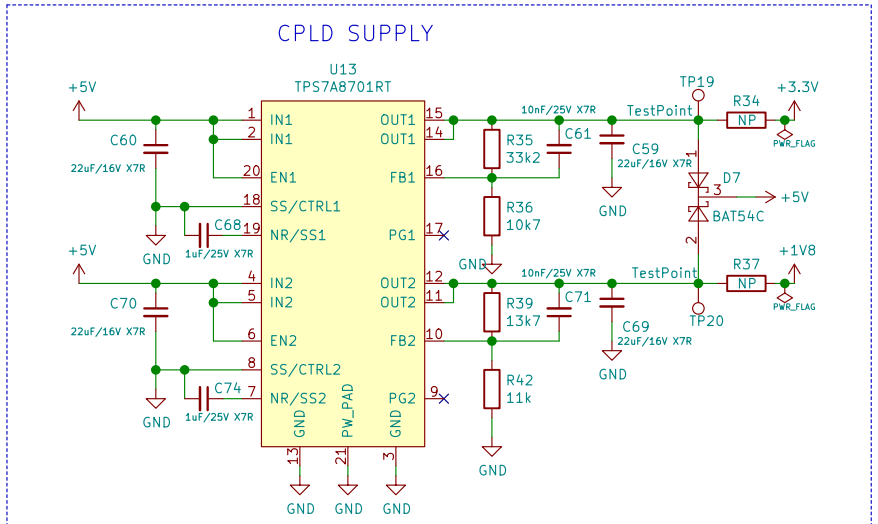
Size: A4	Date: 2019-02-13	**Rev: 1.0**
KiCad E.D.A.	kicad 5.0.2-bee76a070ubuntu16.04.1	Id: 1/5

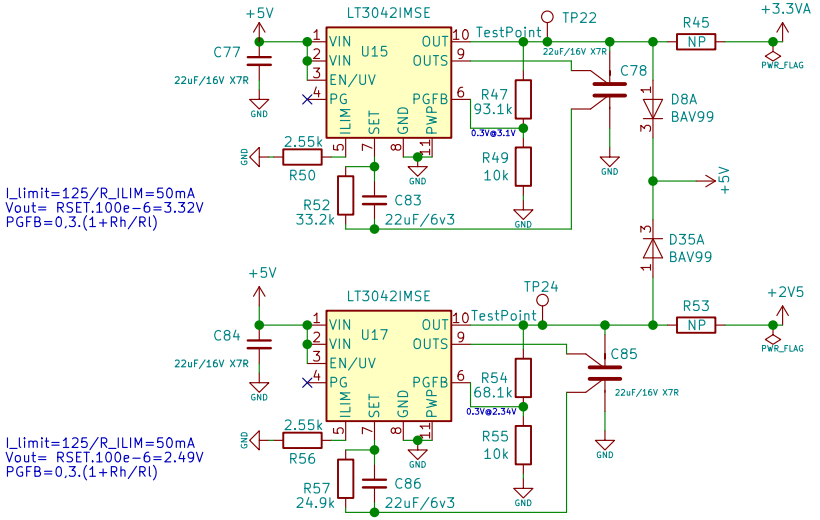

OPTIONAL PARTS:
CAN REPLACE ADA4945-1
R104
R105
OPA1632D
U28
C131
U1
LTC6655CHMS8-5
TP1
REF+5CH1
U2A
LT6202CS5
U2B
C1
C7
C8
C9
R1
R2
C12
JP1
Dynamic Gain compression mode
ON OFF
+2V5
+3.3VA
C13
C14
C17
C15
C18
C19
C20
U9
LTC2380CMS-24
AIN-
AIN+
REF/DGC
REF
SDO
SCK
BUSY
CNV
RDL/SDI
CHAIN
R7
R8
R10
R108
TP2
TP3
TP4
TP5
U4A
NL17SZ74
R13
R14
R17
U5A
NC7SZ04M5X
High freq clock source (only one at same time)
EXTERNAL CLOCK
ON-BOARD CLOCK
ADC1_SDO
ADC1_SCK
ADC1_BUSY
ADC1_CNV
U4B
U5B
C3
C4
J1
RF_Shield_Two_Pieces
Shield
GND
Conn_Coaxial
J2
J4
D36
SZNUP2105L
D1
RELAY_DPDT
K1C
K1B
K2C
K3C
K3B
K2B
FB1
FB2
R4
R5
R15
R16
R6
R12
C21
C22
C26
C27
C30
C31
1k 0.5%
549 0.5%
2.7nF/100V COG
270pF/100V COG
390pF/100V COG
3.9nF/100V COG
600R@100M
Input LPF cuttof (-0.5dB) : 38.4kHz or 384 kHz
Input signal range +/- 5Vmax (10Vpp) or 3.5Vrms
U8
ADA4945-1
JP3
JP4
C11
C16
C23
C25
C32
C33
R3
249
R9
R11
10
C24
C28
C29
6.8nF/100V COG
3.3nF/100V COG
TP6
TP7
VAA
VEE
VOCM1
OUTP1
OUTN1
IN1+
IN1-
FB1+
FB1-
OPTIONAL PARTS:
CAN REPLACE ADA4945-1
R106
R107
OPA1632D
U29
C132
U3B
LT6202CS5
U3A
C2
C57
C58
C10
R18
R19
R20
R21
C34
C35
C39
C46
C48
C47
C51
C52
C36
C37
C40
C38
C41
C42
C43
U11
LTC2380CMS-24
U12
LTC6655CHMS8-5
TP15
REF+5CH2
NC7SZ04M5X
U7A
U6A
U6B
U7B
NL17SZ74
NC7SZ04M5X
ADC2_CNV
ADC2_SDO
ADC2_SCK
ADC2_BUSY
J8
RF_Shield_Two_Pieces
Shield
GND
Conn_Coaxial
J5
J7
D37
SZNUP2105L
D2
SZNUP2105L
RELAY_DPDT
K4B
K4C
K5C
K6C
K6B
K5B
FB3
FB4
R22
R23
R31
R32
R24
R30
C44
C45
C49
C50
C53
C54
1k 0.5%
549 0.5%
2.7nF/100V COG
270pF/100V COG
390pF/100V COG
3.9nF/100V COG
600R@100M
Input LPF cuttof (-0.5dB) : 38.4kHz or 384 kHz
Input signal range +/- 5Vmax (10Vpp) or 3.5Vrms
U10
ADA4945-1
JP6
JP7
C34
C39
C55
C56
R21
249
R27
R29
10
C47
C51
C52
TP9
TP14
VAA
VEE
VOCM2
OUTP2
OUTN2
IN2+
IN2-
FB2+
FB2-
Stand alone dual channels SAR ADCs board
Open Source Versatile Analyzer
OnE Audio PRojects
Sheet: /Analog front end/
File: AA2380v1_AFE.sch
Title: AA2380 OSVA ADC board
Size: A3
Date:
Rev: 1.0
KiCad E.D.A. kicad 5.0.2-bee76a070ubuntu16.04.1
Id: 2/5











Stand alone dual channels SAR ADCs board
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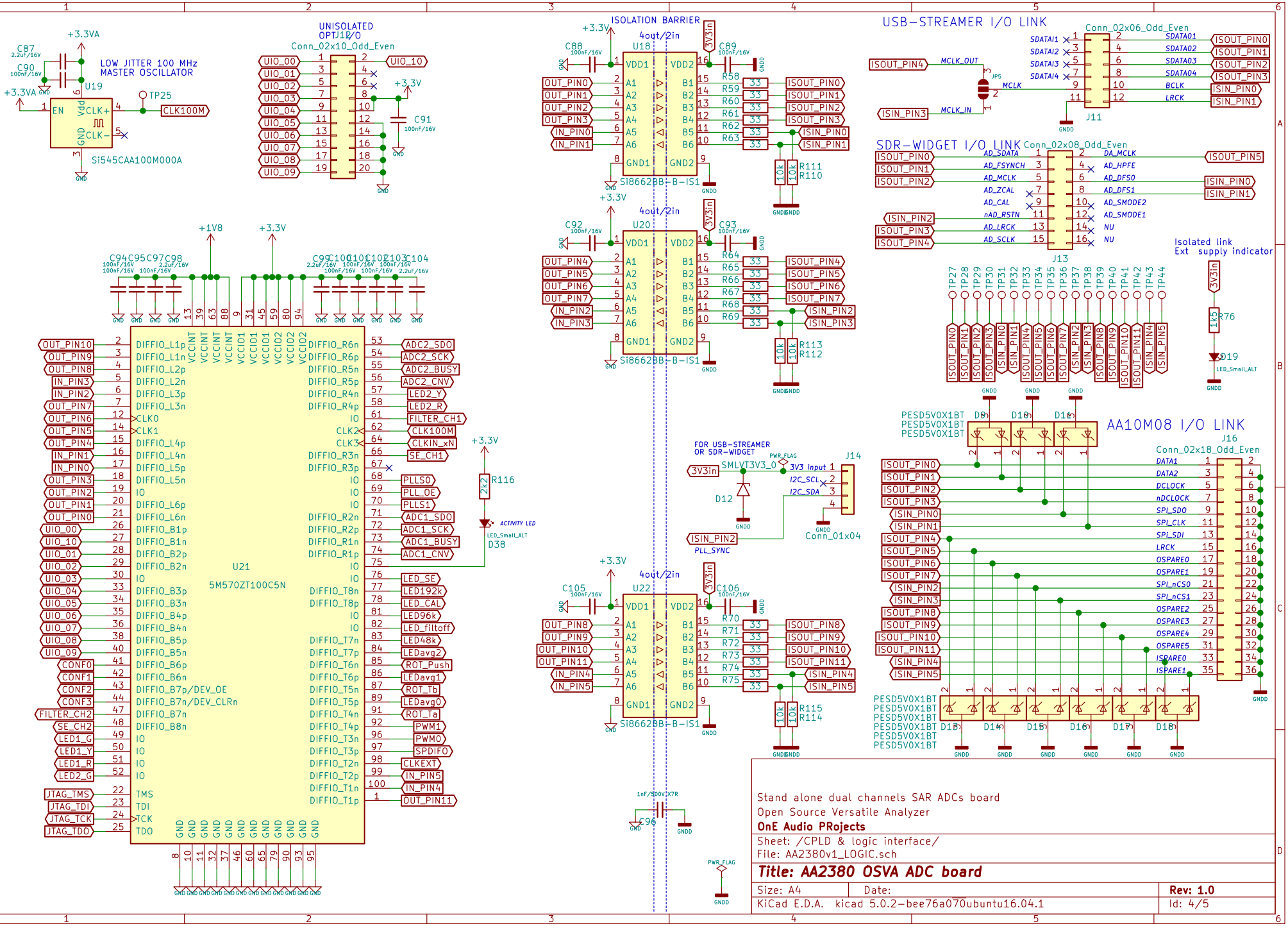
Sheet: /Power supply/
File: AA2380v1_Power.sch

Title: AA2380 OSVA ADC board

Size: A4	Date:	**Rev: 1.0**
KiCad E.D.A. kicad 5.0.2−bee76a070ubuntu16.04.1		Id: 3/5


LOW JITTER 100 MHz
MASTER OSCILLATOR
Si545CAA100M000A
UNISOLATED
OPTJTAG I/O
ISOLATION BARRIER
Si8662BB-B-IS1
USB-STREAMER I/O LINK
SDR-WIDGET I/O LINK
AA10M08 I/O LINK
Isolated link
Ext supply indicator
FOR USB-STREAMER
OR SDR-WIDGET
PLL_SYNC
5M570ZT100C5N
Stand alone dual channels SAR ADCs board
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Sheet: /CPLD & logic interface/
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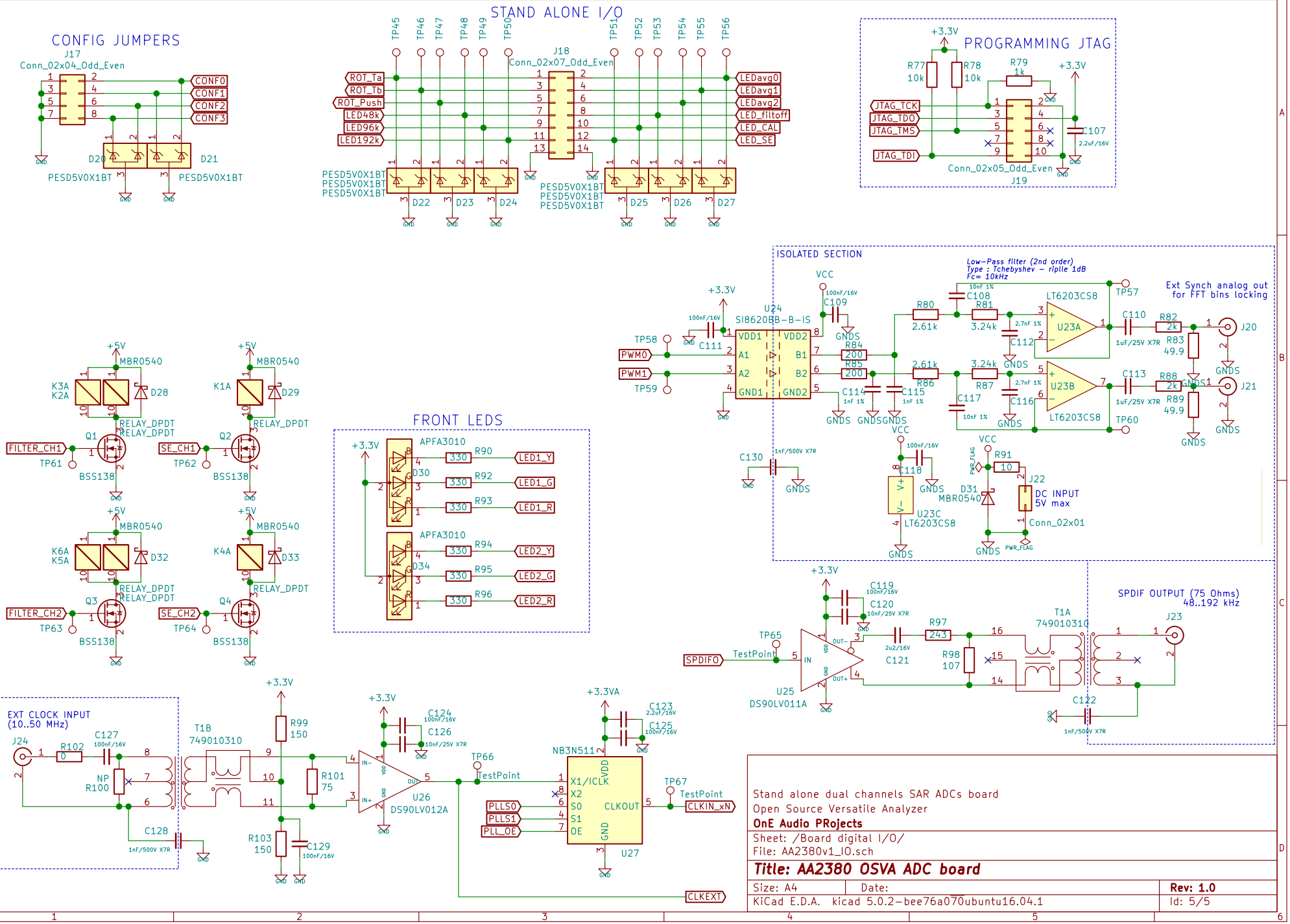
KiCad E.D.A. kicad 5.0.2-bee76a070ubuntu16.04.1
Id: 4/5


CONFIG JUMPERS
J17
Conn_02x04_Odd_Even
CONF0
CONF1
CONF2
CONF3
D20
D21
PESD5V0X1BT
STAND ALONE I/O
J18
Conn_02x07_Odd_Even
ROT_Ta
ROT_Tb
ROT_Push
LED48k
LED96k
LED192k
LEDavg0
LEDavg1
LEDavg2
LED_filtoff
LED_CAL
LED_SE
D22
D23
D24
D25
D26
D27
PROGRAMMING JTAG
JTAG_TCK
JTAG_TDO
JTAG_TMS
JTAG_TDI
Conn_02x05_Odd_Even
J19
ISOLATED SECTION
Low-Pass filter (2nd order)
Type : Tchebyshev - ripple 1dB
Fc= 10kHz
Ext Synch analog out
for FFT bins locking
SI8620BB-B-IS
LT6203CS8
PWM0
PWM1
DC INPUT
5V max
FRONT LEDS
APFA3010
LED1_Y
LED1_G
LED1_R
LED2_Y
LED2_G
LED2_R
MBR0540
BSS138
RELAY_DPDT
FILTER_CH1
SE_CH1
FILTER_CH2
SE_CH2
SPDIF OUTPUT (75 Ohms)
48..192 kHz
SPDIFO
DS90LV011A
EXT CLOCK INPUT
(10..50 MHz)
749010310
DS90LV012A
NB3N511
PLLS0
PLLS1
PLL_OE
CLKIN_xN
CLKEXT
Stand alone dual channels SAR ADCs board
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Sheet: /Board digital I/O/
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