Sheet: OpenAVRc_Power
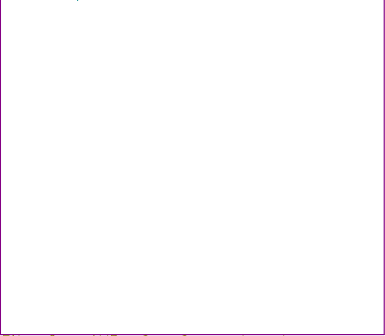
File: OpenAVRc_Power.sch

Sheet: OpenAVRc_Sticks

File: OpenAVRc_Sticks.sch

Sheet: OpenAVRc_I2C

File: OpenAVRc_I2C.sch

Sheet: OpenAVRc_CoreConnects

File: OpenAVRc_CoreConnects.sch

Sheet: OpenAVRc_HF_Telemetry
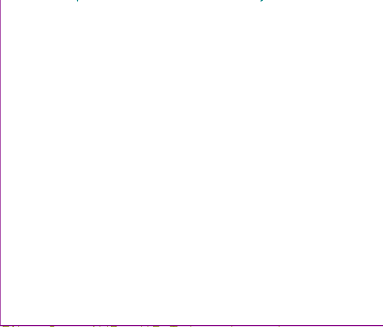
File: OpenAVRc_HF_Telemetry.sch

Sheet: OpenAVRc_Audio_Haptic
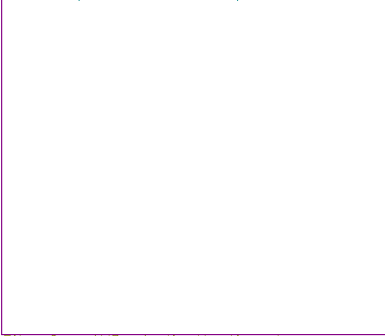
File: OpenAVRc_Audio_Haptic.sch

PWR_FLAG

+BATT

PWR_FLAG

GND

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Sheet: /
File: Mega_2560 core mini_full_2.2.sch

Title: Shield Mega2560 core Full

| Size: A4 | Date: 2019−08−21 | Rev: 2.2 |
| KiCad E.D.A. kicad (5.0.2)−1 | | Id: 1/7 |

Pot1 P32 1 2 3 VCC GND
Pot2 P31 1 2 3 VCC GND
Pot3 P4 1 2 3 VCC GND
Trim P11 1 2 3 4 5 6 7 8 9 10 GND
Switch P14 1 2 3 4 5 6 7 8 9 10 GND
Rot_1 P23 1 2 3 4 GND
Rot_2 P24 1 2 3 4 GND
Keys P25 1 2 3 4 5 6 7 8 GND
5V_CODERS P33 1 2 VCC

Pot_1 C14 100nF GND
Pot_2 C13 100nF GND
Pot_3 C12 100nF GND

Trim_RV<- Trim_LV<- Trim_RH<- Trim_LH-> Trim_RH-> Trim_LV-> Trim_RV-> Trim_LH<-

Sw_id1 Sw_id2 Sw_rudDR Sw_gear Sw_ailDR Sw_thcut Sw_eleDR Sw_turn

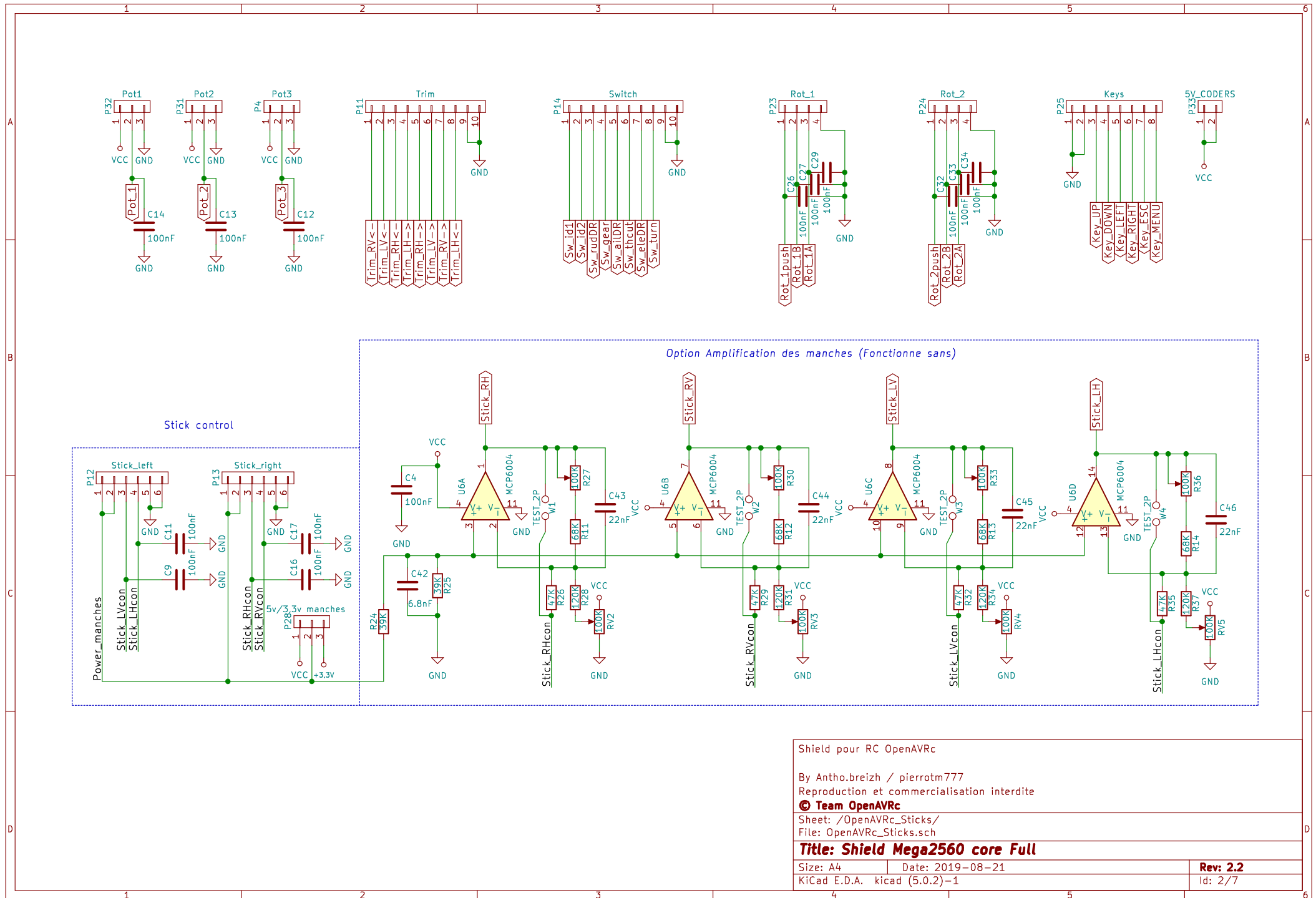C26 C27 C29 100nF 100nF 100nF GND
Rot_1push Rot_1B Rot_1A

C32 C33 C34 100nF 100nF 100nF GND
Rot_2push Rot_2B Rot_2A

Key_UP Key_DOWN Key_LEFT Key_RIGHT Key_ESC Key_MENU

Option Amplification des manches (Fonctionne sans)

Stick_RH Stick_RV Stick_LV Stick_LH

VCC
U6A MCP6004 11 TEST_2P W1 100K R27 68K R11 C43 22nF VCC
U6B MCP6004 11 TEST_2P W2 100K R30 68K R12 C44 22nF VCC
U6C MCP6004 11 TEST_2P W3 100K R33 68K R13 C45 22nF VCC
U6D MCP6004 11 TEST_2P W4 100K R36 68K R14 C46 22nF

C4 100nF GND

Stick control
Stick_left P12 1 2 3 4 5 6 GND C11 100nF 100nF GND
Stick_right P13 1 2 3 4 5 6 GND C17 100nF 100nF GND
C9 100nF 100nF GND
C16 100nF 100nF GND
Power_manches Stick_LVcon Stick_LHcon Stick_RHcon Stick_RVcon
5v/3.3v manches P28 1 2 3 VCC +3.3v

R24 39K C42 6.8nF 39K R25 GND

Stick_RHcon 47K R26 120K R28 VCC 100K RV2 GND
Stick_RVcon 47K R29 120K R31 VCC 100K RV3 GND
Stick_LVcon 47K R32 120K R34 VCC 100K RV4 GND
Stick_LHcon 47K R35 120K R37 VCC 100K RV5 GND

Sheet: /OpenAVRc_Sticks/
File: OpenAVRc_Sticks.sch
Title: Shield Mega2560 core Full
Size: A4 Date: 2019-08-21 Rev: 2.2
KiCad E.D.A. kicad (5.0.2)-1 Id: 2/7

SPI

Miso 1	2
Sck 3	4 Mosi
lsp_rst 5	6

P9

GND   VCC

Micro_sd P6

Microsd_CS1
Sck
Mosi
Miso
100nF C3
VCC   GND

LCD P16

Lcd_vo
Lcd_db0
Lcd_db1
Lcd_db2
Lcd_db3
Lcd_db4
Lcd_db5
Lcd_db6
Lcd_db7
Lcd_e
Lcd_r/w
Lcd_A0
Lcd_rst
Lcd_blk
Lcd_cs

GND

LCD_VCC   10K RV1   GND

R10 100   RV6 1K

Lcd_bla

v2.1:Connectors-2560-core

GND C15 100nF   VCC

100nF C19 GND

P1 VCC VCC

VCC

Miso B3 VCC
Sck B1 B2 Mosi
lsp_rst RST GND GND

2560-core	
Tele_RX E0	G5 Rot_1push
Rot_2push E3	E1 Tele_TX
Rot_1B E5	E4 Rot_1A
Rot_2A E7	E6 Rot_2B
JQ6500Busy J0	J1 JQ6500Data
Xmitter_MISO H0	H1 Xmitter_MOSI
BT_Rxd1 D2	D3 BT_Txd1
Scl D0	D1 Sda
Audio_Buzzer_out H3	H2 Xmitter_SCK
Vibreur H5	H4 Hold_Power
Microsd_CS B0	H6 Sim_Control
PPM16_SIMout B5	B4 BT_KEY_CMD
B7	B6 Master_PPMout
Key_UP L1	L0 Key_DOWN
Key_LEFT L3	L2 Key_RIGHT
Key_ESC L5	L4 Key_MENU
Sw_turn L7	L6 Sw_eleDR
Spare_2 G3	H7 Spare_1
GND	GND

J7	A0 Lcd_db0
Lcd_db1 A1	A2 Lcd_db2
Lcd_db3 A3	A4 Lcd_db4
Lcd_db5 A5	A6 Lcd_db6
Lcd_db7 A7	G2 Sw_thcut
CS_A7105 J6	J5 CS_NRF24L01
CS_CYRF6936 J4	J3 CS_CC2500
J2	AC15 U_batt
Pot_3 AC14	AC13 Pot_2
Pot_1 AC12	AC11 Stick_LH
Stick_RV AC10	AC9 Stick_LV
Stick_RH AC8	AC7 Trim_LH<-
Trim_LH-> AC6	AC5 Trim_LV<-
Trim_LV-> AC4	AC3 Trim_RV<-
Trim_RV-> AC2	AC1 Trim_RH<-
Trim_RH-> AC0	VREF
GND	GND

GND   GND

GND

PPM_in Sw_rudDR Sw_id1 Lcd_bla Lcd_rst Lcd_r/w
GND NC D4 D6 G0 C0 C4 C6

G4 D5 D7 G1 C1 C3 C5 C7 VCC
Lcd_cs Lcd_A0 Lcd_e

AGND AGND

BT_OnOff Sw_ailDR Sw_gear Sw_id2

VCC   100nF C18 GND

GND

51.5mm 36.5 mm MEGA 2560 core

Pin out libre

3	
2	Spare_2
1	Spare_1

DUMMY P15

Bluetooth HC-05/HM-10

P10 RX1TX1

GND   R5 2K7

R6 1K

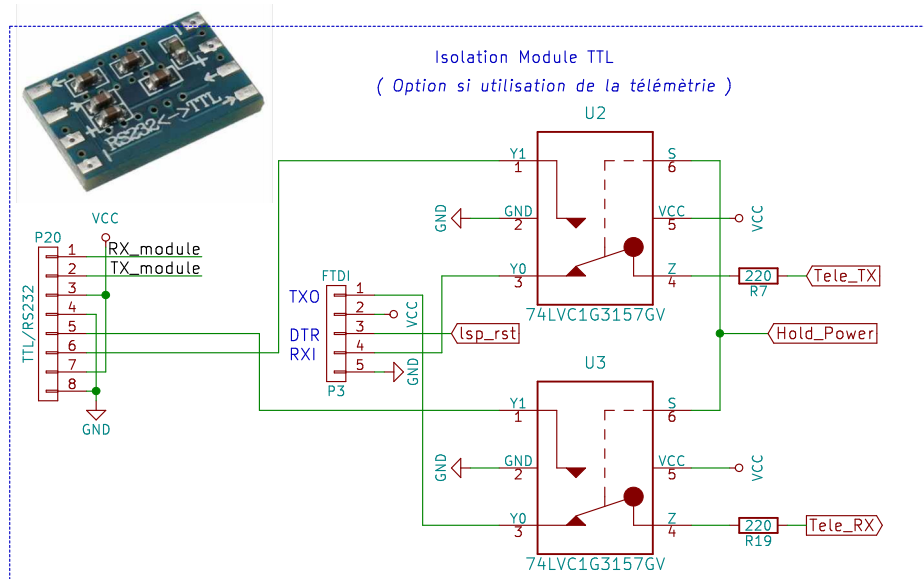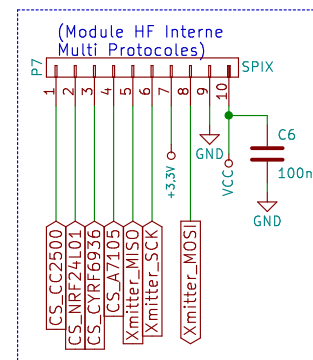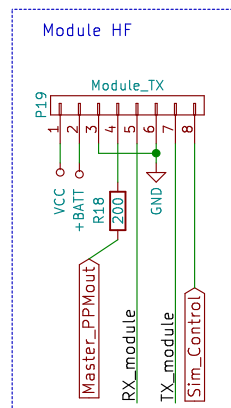BT_Txd1 BT_Rxd1

C10 100nF GND

IRLML5203 Q1 VCC

R39 47K

R40 100 BT_OnOff

BT_KEY_CMD

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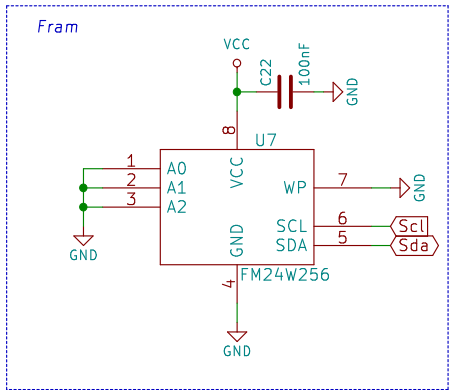Sheet: /OpenAVRc_CoreConnects/
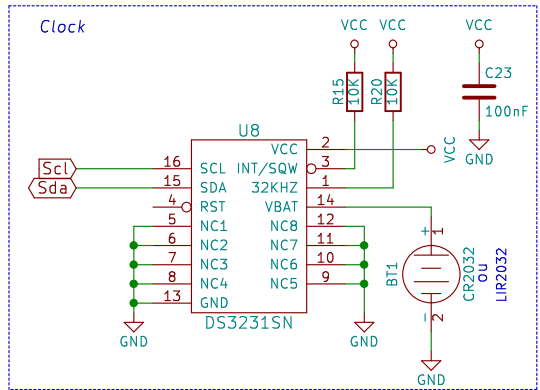File: OpenAVRc_CoreConnects.sch

Title: Shield Mega2560 core Full

Size: A4	Date: 2019-08-21	Rev: 2.2
KiCad E.D.A. kicad (5.0.2)-1		Id: 3/7

Module HF

P19 — Module_TX
1 2 3 4 5 6 7 8

VCC +BATT
R18 200
GND
Master_PPMout
RX_module
TX_module
Sim_Control

(Module HF Interne Multi Protocoles)

P7 — SPIX
1 2 3 4 5 6 7 8 9 10

CS_CC2500
CS_NRF24L01
CS_CYRF6936
CS_A7105
Xmitter_MISO
Xmitter_SCK
+3,3V
GND
VCC
Xmitter_MOSI

C6 100nF
GND

Isolation Module TTL
(Option si utilisation de la télémètrie)

VCC

P20 — TTL/RS232
1 RX_module
2 TX_module
3
4
5
6
7
8
GND

FTDI — P3
TXO 1
2 VCC
DTR 3
RXI 4
5 GND
lsp_rst

U2 — 74LVC1G3157GV
Y1 1 — S 6
GND 2 — GND — VCC 5 — VCC
Y0 3 — Z 4 — 220 R7 — Tele_TX
Hold_Power

U3 — 74LVC1G3157GV
Y1 1 — S 6
GND 2 — GND — VCC 5 — VCC
Y0 3 — Z 4 — 220 R19 — Tele_RX

PPM Management

U1 — 74LVC1G3157GV
PPM_in — Y1 1 — S 6 — Sim_Control
GND 2 — GND — VCC 5 — VCC
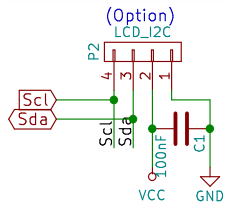PPM16_SIMout — Y0 3 — Z 4 — 200 R8

P18 — Ecolage
1
2
GND
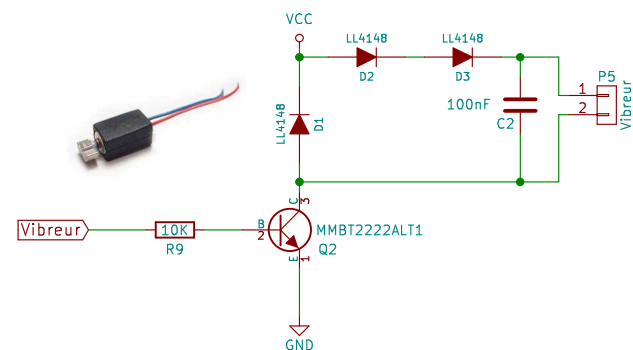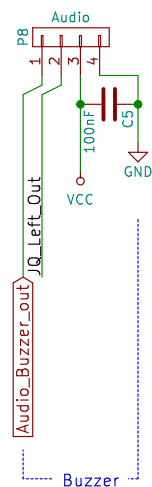
Title: Shield Mega2560 core Full

Size: A4	Date: 2019-08-21	Rev: 2.2
KiCad E.D.A. kicad (5.0.2)-1		Id: 4/7

(Option)
LCD_I2C
P2
Scl
Sda
Scl
Sda
100nF
C1
VCC
GND

PCF8574

Clock

VCC   VCC   VCC

R15   R20
10K   10K

C23
100nF
GND

U8

16	SCL	VCC	2
15	SDA	INT/SQW	3
4	RST	32KHZ	1
5	NC1	VBAT	14
6	NC2	NC8	12
7	NC3	NC7	11
8	NC4	NC6	10
13	GND	NC5	9

Scl
Sda

VCC
GND

DS3231SN

GND   GND

BT1
CR2032 OU LIR2032

GND

Fram

VCC
C22
100nF
GND

U7

1	A0	VCC	8
2	A1	WP	7
3	A2		
		SCL	6
		SDA	5
4	GND		

GND

WP → GND
SCL → Scl
SDA → Sda

FM24W256

GND

Title: Shield Mega2560 core Full

| Size: A4 | Date: 2019-08-21 | Rev: 2.2 |
| KiCad E.D.A. kicad (5.0.2)-1 | | Id: 5/7 |

SPK+
SPK-

DACL — JQ_Left_Out

RX
1K
R4 — JQ6500Data

BUSY
18K
R3 — JQ6500Busy

JQ6500_28P

P22

GND
GND
VCC

GND
GND
VCC

C20
100nF VCC
GND

C21
100nF
GND

GND

GND

Audio

P8
1 2 3 4

Audio_Buzzer_out

JQ_Left_Out

100nF

C5
GND

VCC

Buzzer

VCC
LL4148 LL4148
D2   D3

LL4148
D1

100nF
C2

P5
1
2
Vibreur

Vibreur
10K
R9

B
2
MMBT2222ALT1
Q2
E

GND

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File: OpenAVRc_Audio_Haptic.sch
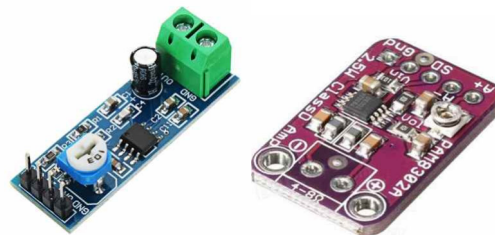
Title: Shield Mega2560 core Full

Size: A4	Date: 2019-08-21	Rev: 2.2
KiCad E.D.A. kicad (5.0.2)-1		Id: 6/7

Power Management

PM-5033

Option module DCDC 3A

Option si utilisation du 3.3V dans le montage

LIPO+
MBR0520
D6
BATT
P17
2
1
GND

Power Switch
P21
1 2
100K
R42
8,2K
R22

SI2319DS
S   D
G
Q4
R1
5,1K

Hold_Power
5,1K
R2
LL4148
D4
R21
10K
GND

B
C
E
Q3
MMBT2222ALT1

U_batt
R16
2,7K
GND

+BATT
R17
5,1K
GND

C28
100µF
GND

33K
R41
R43
10K
GND

VIN
2
EN
1
PM5033
U4
5V
4
3V3
5 +3.3V
GND
3
GND

C31
100nF
GND
C7
100µF
GND

P26
1
2
3
LCD_Alim

+5V
VCC

LCD_VCC

+3.3V
LD1117S33TR
3 VI   VO 2
GND   VO 4
U5
C38
100nF
GND
C8
47µF
GND
+3.3V
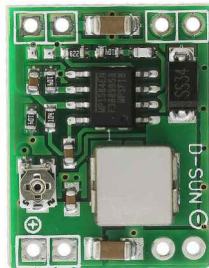
MiniDCDC3A
8
7
6
5
4
3
2
1
P30
VCC
+BATT
DCDC_IN−
GND

D-SUN

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Sheet: /OpenAVRc_Power/
File: OpenAVRc_Power.sch

Title: Shield Mega2560 core Full

Size: A4   Date: 2019−08−21   Rev: 2.2
KiCad E.D.A. kicad (5.0.2)−1   Id: 7/7