| 1 | 2 | 3 | 4 |

PSU

V_IN	V_IN
V_BAT	V_BAT
PGOOD	PGOOD
CHARGER	CHARGER
4V4+	4V4+
3V3	3V3

Power Supply

MCU

V_BAT	V_BAT
V_IN	V_IN
PGOOD	PGOOD
CHARGER	CHARGER
I2S_CK	STM_I2S5_CK
I2S_WS	STM_I2S5_WS
I2S_SD	STM_I2S5_SD
I2C_SCL	STM_I2C1_SCL
I2C_SDA	STM_I2C1_SDA

Main

Audio

3V3	3V3
I2S_CK	STM_I2S5_CK
I2S_WS	STM_I2S5_WS
I2S_SD	STM_I2S5_SD
I2C_SCL	STM_I2C1_SCL
I2C_SDA	STM_I2C1_SDA

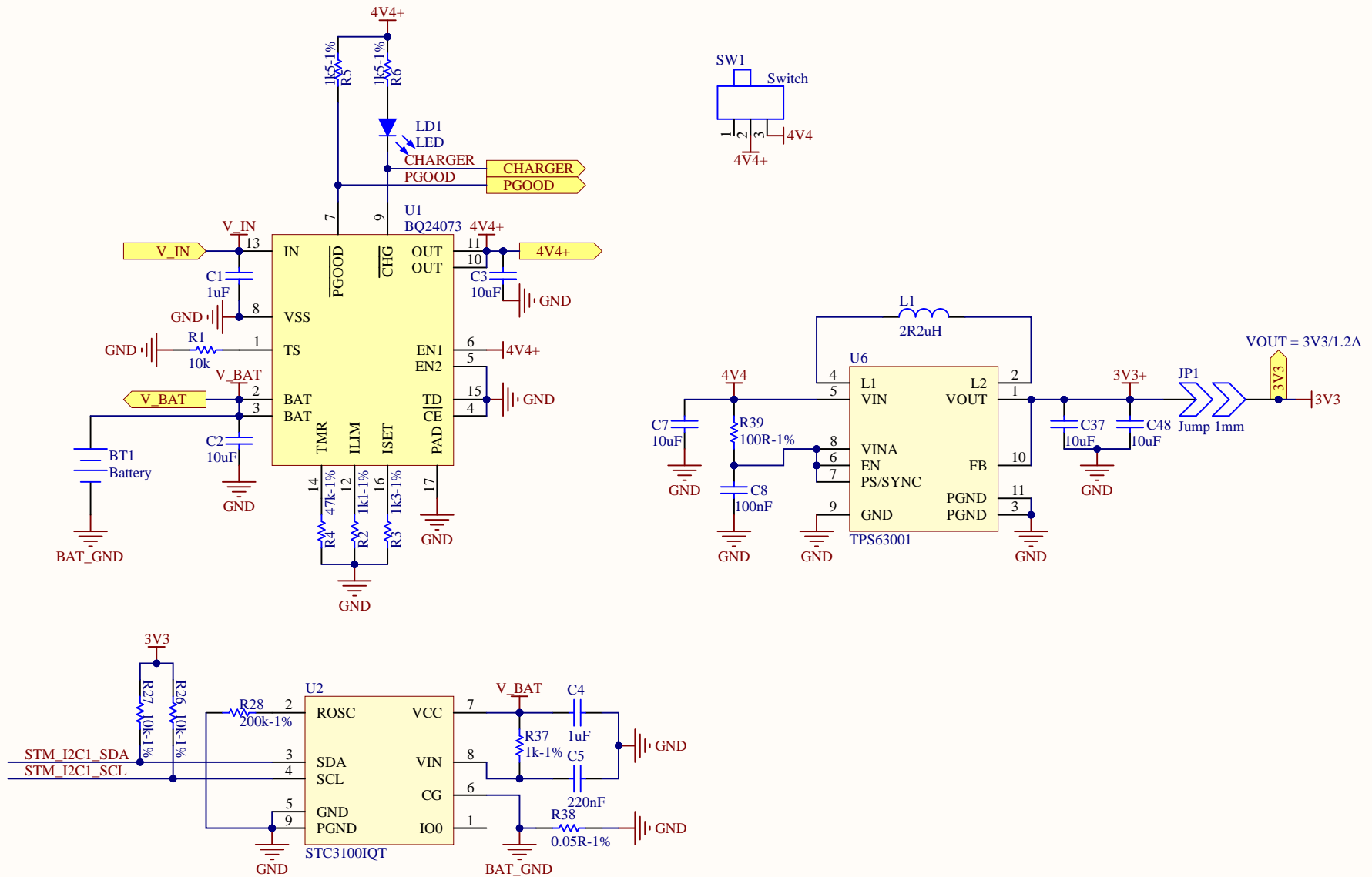Music Player

Title:	**Board Interconnection**
Size: -	Referent: -	Revision: -
File: Audio_Player_V1.1.SchDoc	Drawn By: Duc Huy Le
Date: 4/18/2023	Sheet: 1 of 4

Power Supply — PSU.SchDoc

U1 — BQ24073

- 4V4+
- R5 1k5-1%
- R6 1k5-1%
- LD1 LED
- CHARGER
- PGOOD
- CHARGER
- PGOOD
- V_IN — 13 IN
- 7 PGOOD
- 9 CHG
- 11 OUT / 10 OUT — 4V4+
- C1 1uF
- C3 10uF — GND
- GND — 8 VSS
- GND — R1 10k — 1 TS
- V_BAT — 2 BAT / 3 BAT
- 6 EN1 — 4V4+
- 5 EN2
- 15 TD / 4 CE — GND
- C2 10uF — GND
- BT1 Battery
- BAT_GND
- 14 TMR — R4 47k-1%
- 12 ILIM — R2 1k1-1%
- 16 ISET — R3 1k3-1%
- 17 PAD — GND
- GND

SW1 Switch
- 1 2 3 — 4V4
- 4V4+

U6 — TPS63001

- L1 2R2uH
- 4V4
- C7 10uF — GND
- R39 100R-1%
- C8 100nF — GND
- 4 L1 / 5 VIN
- 8 VINA
- 6 EN
- 7 PS/SYNC
- 9 GND — GND
- 2 L2 / 1 VOUT — 3V3+
- 10 FB
- 11 PGND / 3 PGND — GND
- C37 10uF / C48 10uF — GND
- JP1 Jump 1mm
- VOUT = 3V3/1.2A
- 3V3 — 3V3

U2 — STC3100IQT

- 3V3
- R27 10k-1%
- R26 10k-1%
- R28 200k-1% — 2 ROSC
- STM_I2C1_SDA — 3 SDA
- STM_I2C1_SCL — 4 SCL
- 5 GND / 9 PGND — GND
- 7 VCC — V_BAT
- 8 VIN
- 6 CG
- 1 IO0
- R37 1k-1%
- C4 1uF — GND
- C5 220nF
- R38 0.05R-1% — GND
- BAT_GND

Title: **Power Supply**
Size: A   Referent: -   Revision: -
File: PSU.SchDoc   Drawn By: Duc Huy Le
Date: 4/18/2023   Sheet: 2 of 4

Title: **STM32F411CEU6 and Peripheral**

Size: B Referent: - Revision: -

File: MCU.SchDoc Drawn By: Duc Huy Le

Date: 4/18/2023 Sheet: 3 of 4
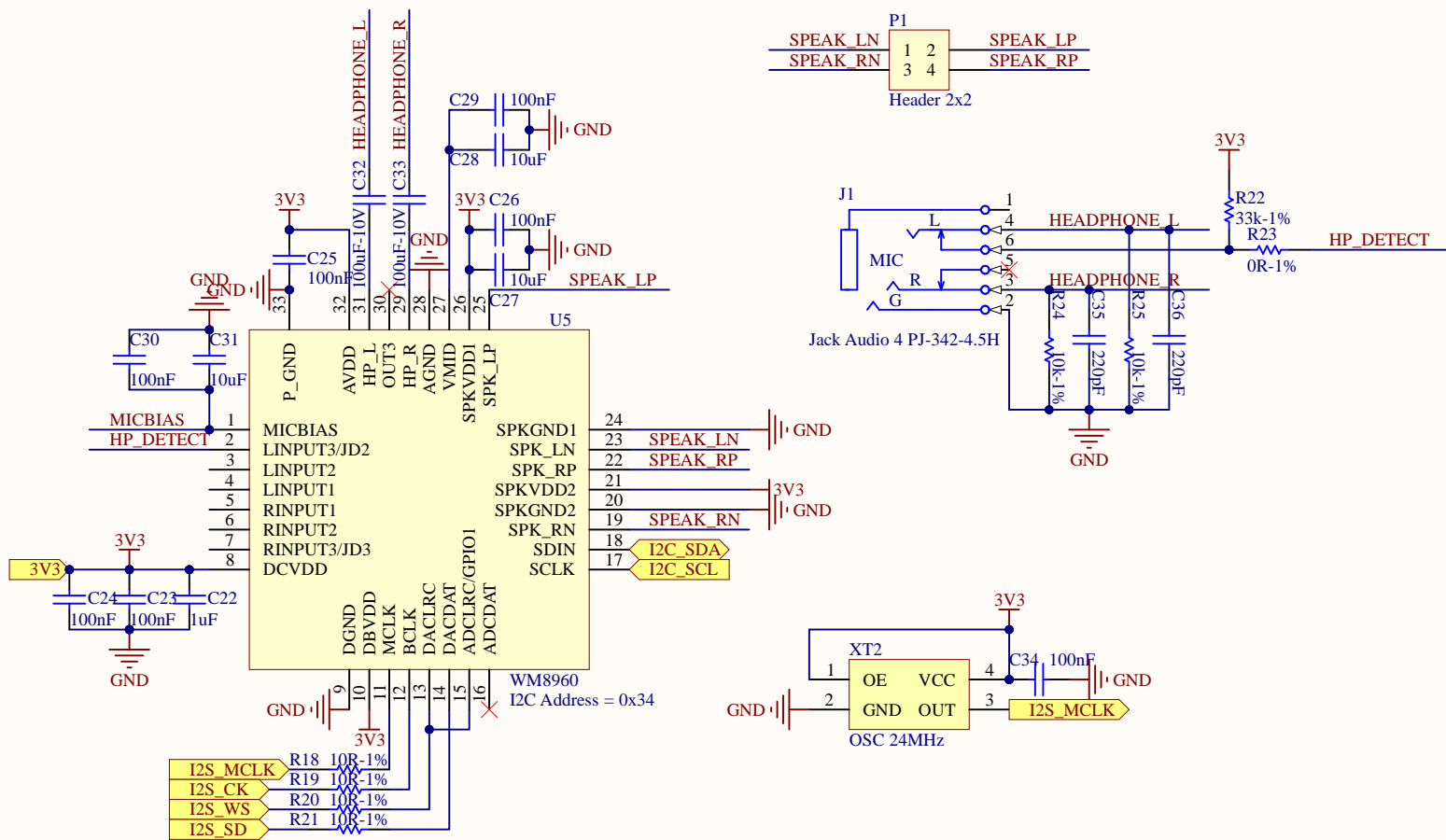
Title: Audio

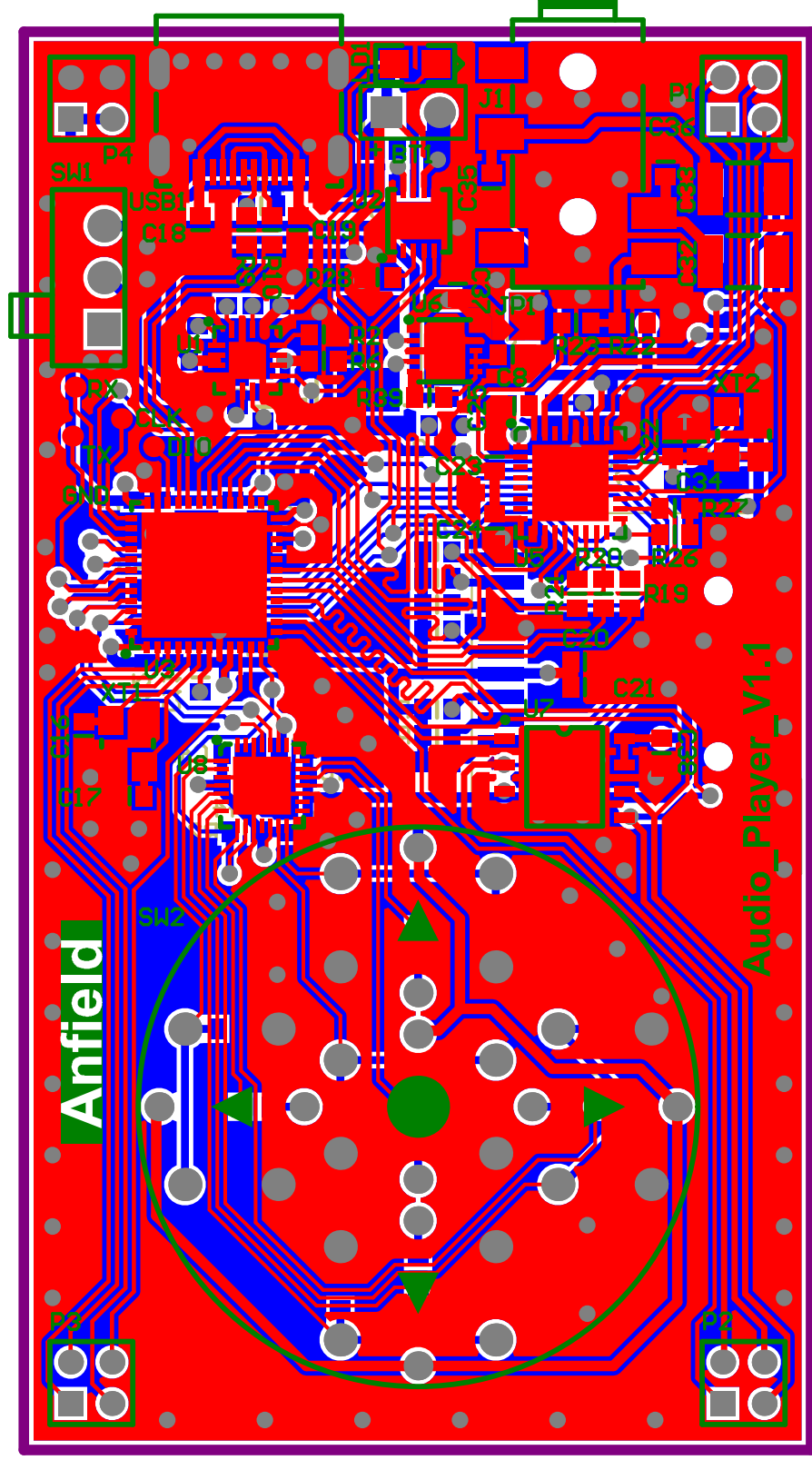| Size: - | Referent: - | | Revision: - |
| File: Audio.SchDoc | | Drawn By: Duc Huy Le | |
| Date: 4/18/2023 | | Sheet: 4 of 4 | |

Comment	Description	Designator	Footprint	LibRef	Quantity
Battery	Multicell Battery	BT1	BAT-2	Battery	1
1uF	Cap SMD	C1, C4, C21, C22	Cap 0603	Cap	4
10uF	Cap SMD	C2, C3, C7, C14, C18, C27, C28, C31, C37, C47, C48	Cap 0603	Cap	11
220nF	Cap SMD	C5	Cap 0603	Cap	1
100nF	Cap SMD	C8, C9, C10, C11, C12, C13, C19, C20, C23, C24, C25, C26, C29, C30, C34, C38, C39, C40, C41, C42, C43, C44, C45, C46	Cap 0603	Cap	24
2.2uF	Cap SMD	C15	Cap 0603	Cap	1
12pF	Cap SMD	C16, C17	Cap 0603	Cap	2
100uF-10V	Cap SMD	C32, C33	Cap 1210	Cap	2
220pF	Cap SMD	C35, C36	Cap 0603	Cap	2
Jack Audio 4 PJ-342-4.5H	Jack Audio 3.5 4 pole CTIA use for: Samsung, Apple, Sony	J1	PJ-342	Jack Audio 4 PJ-342-4.5H	1
Jump 1mm	Jump 1mm	JP1	Jump 1mm	Jump	1
2R2uH	L- SMD	L1	Inductor 0520	Inductor	1
LED	LED	LD1	LED	LED	1
Header 2x2	Header 2x2	P1, P2, P3, P4	Header 2mm 2x2	Header 2x2	4
10k	Res SMD	R1	Res 0603	Res	1
1k1-1%	Res SMD	R2	Res 0603	Res	1
1k3-1%	Res SMD	R3	Res 0603	Res	1
47k-1%	Res SMD	R4	Res 0603	Res	1
1k5-1%	Res SMD	R5, R6, R36	Res 0603	Res	3
1k-1%	Res SMD	R7, R8, R37	Res 0603	Res	3
10R-1%	Res SMD	R9, R10, R18, R19, R20, R21	Res 0603	Res	6
10k-1%	Res SMD	R11, R12, R13, R14, R15, R16, R17, R24, R25, R26, R27, R29, R30	Res 0603	Res	13
33k-1%	Res SMD	R22	Res 0603	Res	1
0R-1%	Res SMD	R23	Res 0603	Res	1
200k-1%	Res SMD	R28	Res 0603	Res	1
330R-1%	Res SMD	R31, R32, R33, R34, R35	Res 0603	Res	5
0.05R-1%	Res SMD	R38	Res 2512	Res	1
100R-1%	Res SMD	R39	Res 0603	Res	1
Switch	MSK-38 Slide switch 3 pin	SW1	Slide switch MSK-38	SW 3	1
Switch 5 ways	Switch 5 ways: left, right, up, down, centre	SW2	Switch 5 ways	Switch 5 ways	1
TP	TP	TP1, TP2, TP3, TP4, TP5, TP6	TP	TP	6
BQ24073	Li-Ion Battery Charger	U1	QFN-16	BQ24073	1
STC3100IQT	Battery monitor IC with Coulomb counter/gas gauge	U2	DFN-8 3x3	STC3100	1
STM32F411CEU6	UFQFPN48 Arm® Cortex®-M4 32b MCU+FPU, 125 DMIPS, 512KB Flash, 128KB RAM, USB OTG FS, 11 TIMs, 1 ADC, 13 comm. interfaces	U3	UFQFPN-48	STM32F411CEU6	1
MicroSD	MicroSD Push-Push A	U4	MicroSD A	MicroSD-A	1
WM8960	Stereo CODEC with 1W Stereo Class D Speaker Drivers and Headphone Drivers for P	U5	QFN-32 5X5	WM8960	1
TPS63001	TPS6300x High-Efficient Single Inductor Buck-Boost Converter With 1.8-A Switches	U6	VSON-10 3x3	TPS63001	1
W25Qxx	Flash Memory SPI Interface	U7	WSON 6x5	W25Qxx	1
SX1509B	SX1509B 16-channel I2C GPIO with LED Driver and Keypad Engine	U8	QFN-28 4x4	SX1509B	1
USB type C	USB type C 16 Pins	USB1	USB Type C	USB type C	1
25Mhz	Xtal 4 pins SMD	XT1	Crystal 3225	XT4	1
OSC 24MHz	Xtal - OSC	XT2	Crystal 3225	XTAL- 4 Pins	1