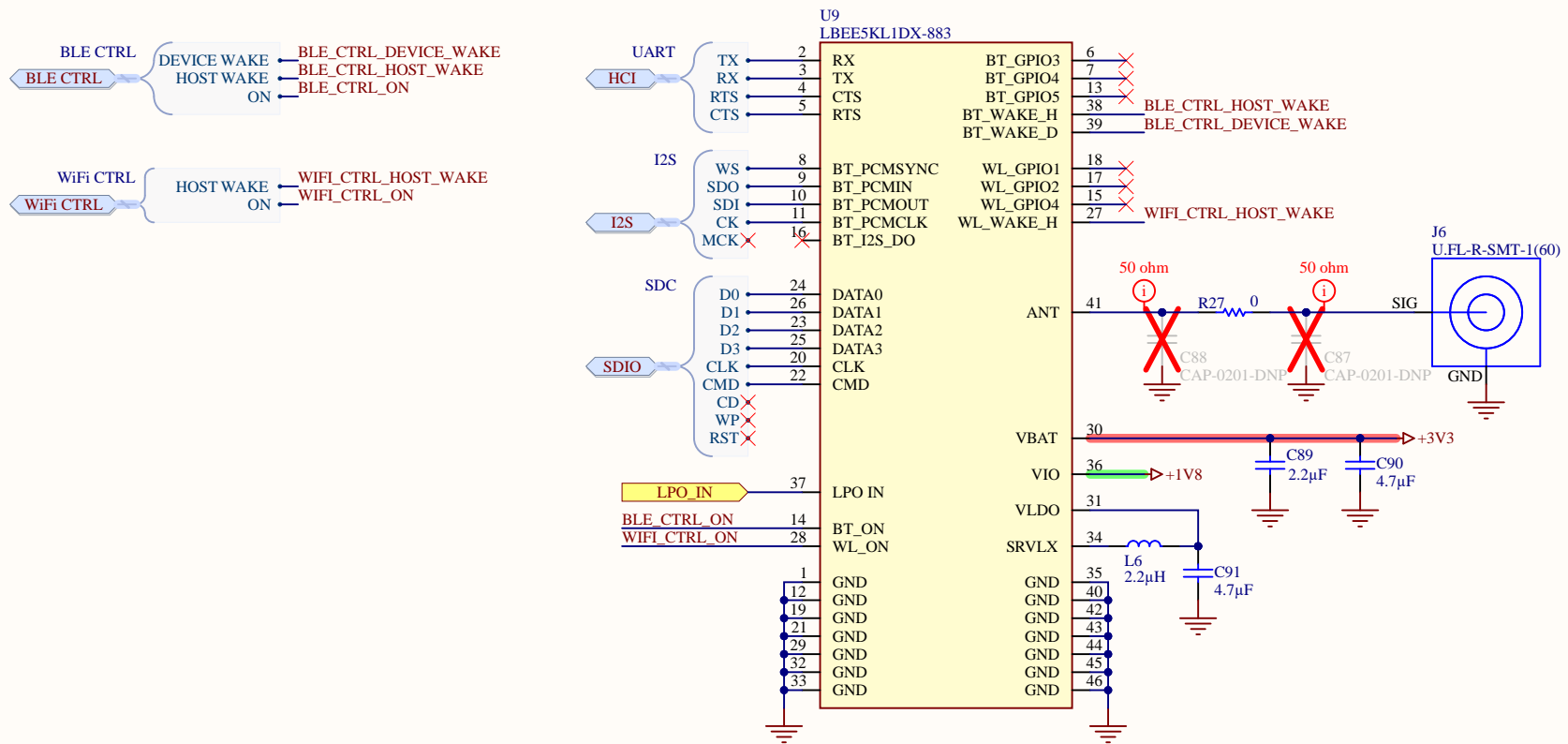




Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

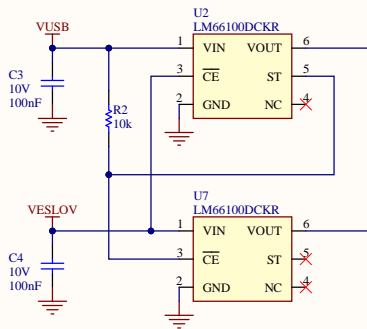
| | | | |
|---------------------|----------------|---|-----------------------------|
| Title: TOP | |   | |
| ID: ABX00051 | | | |
| Date: 2022-11-23 | Time: 14:28:40 | Sheet 1 of 8 | |
| File: TOP.SchDoc | | Author: Silvio Navaretti | RevAuthor: Silvio Navaretti |



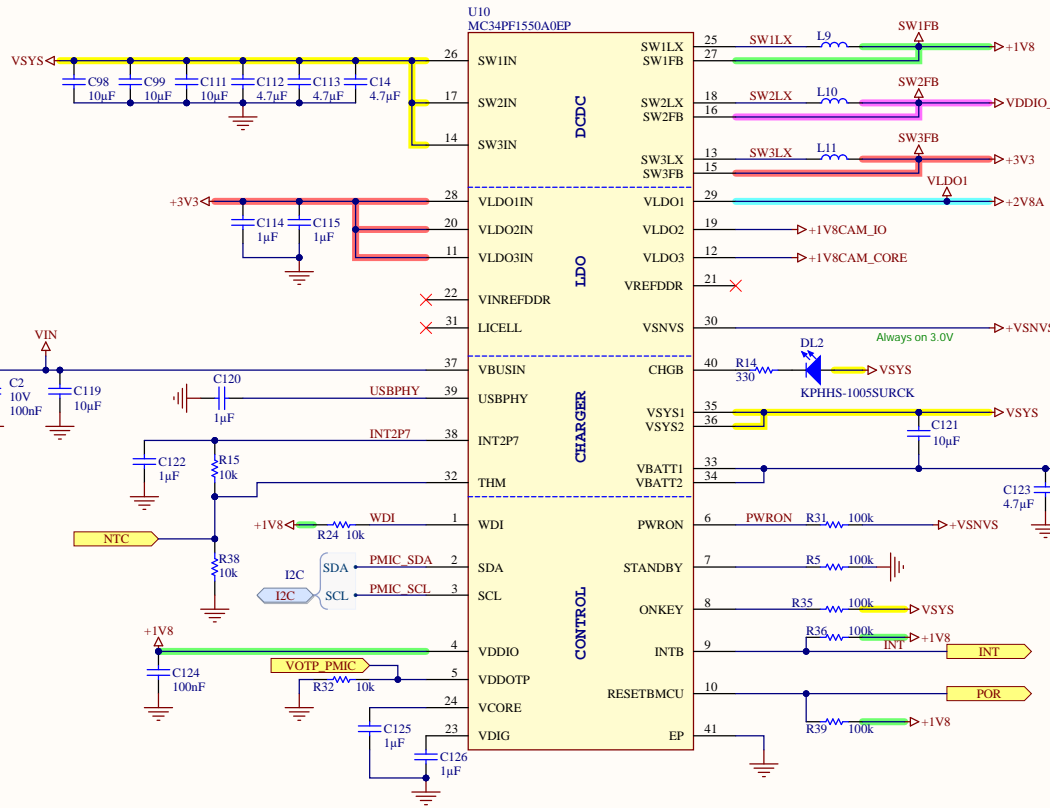
Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

| | | | |
|--------------------------|---------------------------------|---|--|
| Title: WIFI / BLE | |   | |
| ID: ABX00051 | Revision: V1.4 | | |
| Date: 2022-11-23 | Time: 14:28:42 | Sheet 2 of 8 | |
| File: Wifi.SchDoc | Author: Arturo Guadalupi | RevAuthor: Silvio Navaretti | |

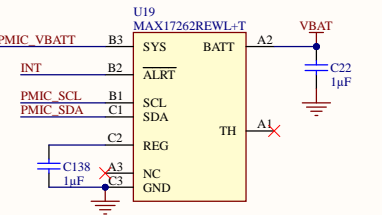
OR-ING WITH IDEAL DIODES



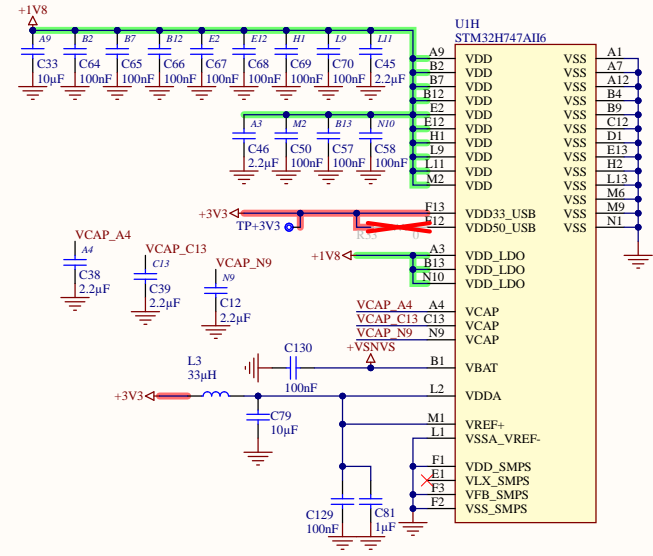
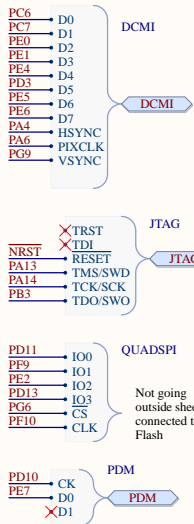
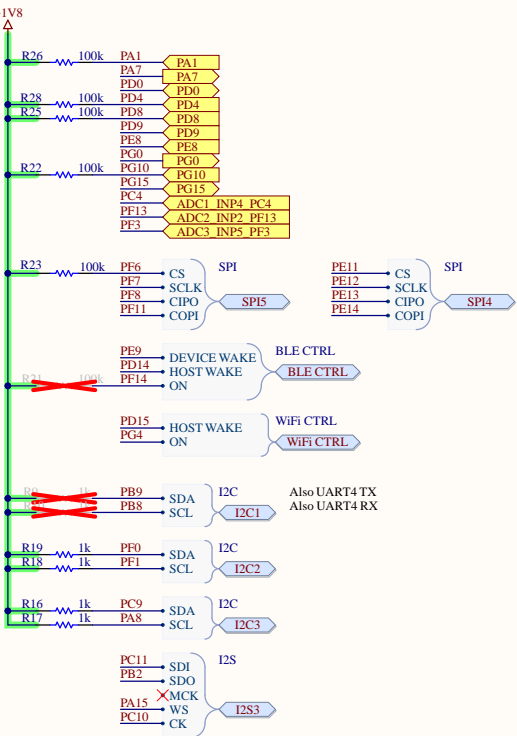
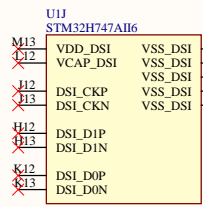
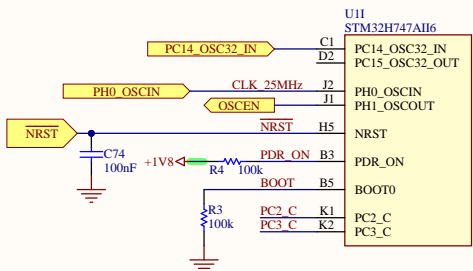
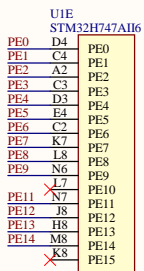
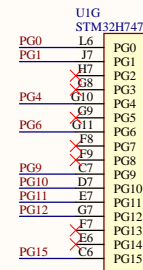
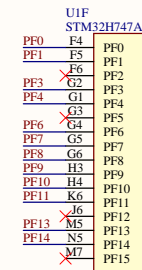
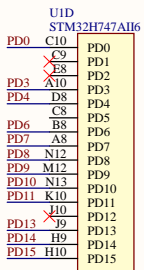
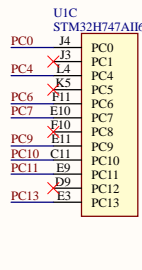
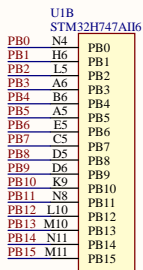
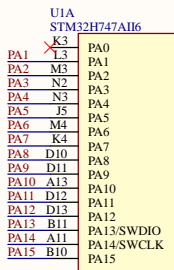
PMIC I2C 0x08



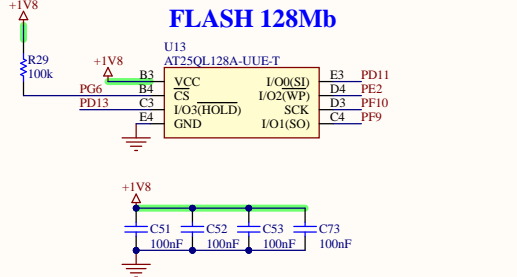
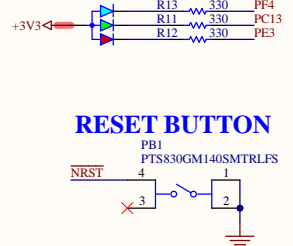
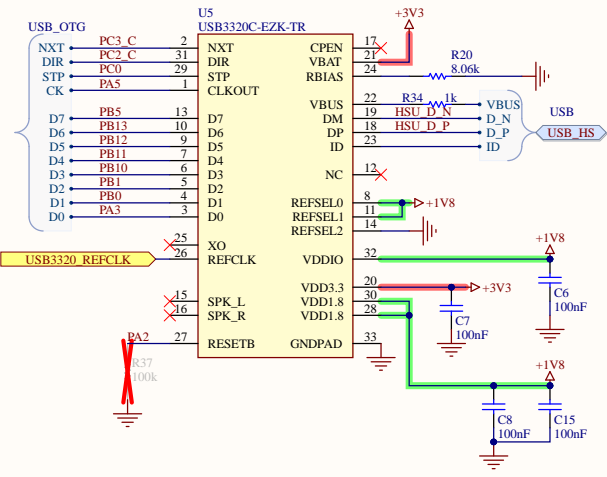
BATTERY FUEL GAUGE I2C 0x6C



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS". Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
 Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined".
 Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.
 Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.



USB PHYSICAL



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

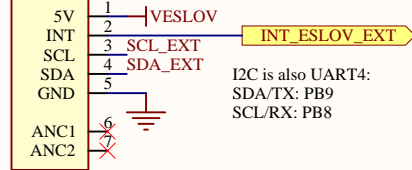
Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined".

Arduino SA reserves the future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.

Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

ESLOV CONNECTOR

J5
SM05B-SRSS-TB(LF)(SN)



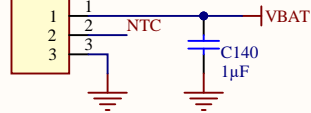
I2C is also UART4:
SDA/TX: PB9
SCL/RX: PB8

JTAG



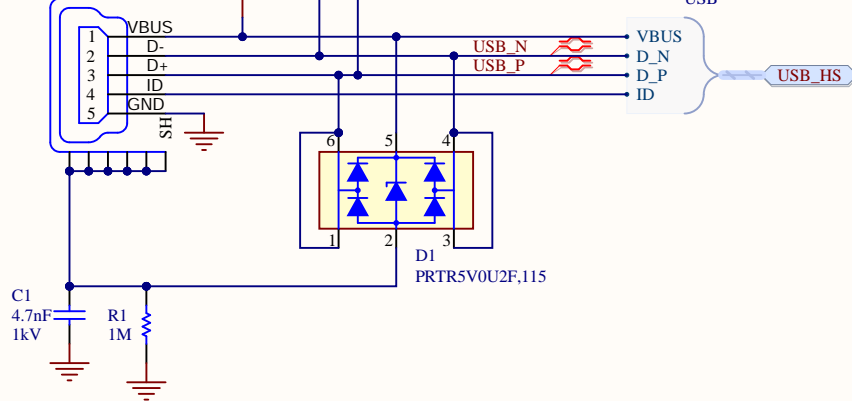
BATTERY CONNECTOR

J4
BM03B-ACHSS-GAN-TF(LF)(SN)

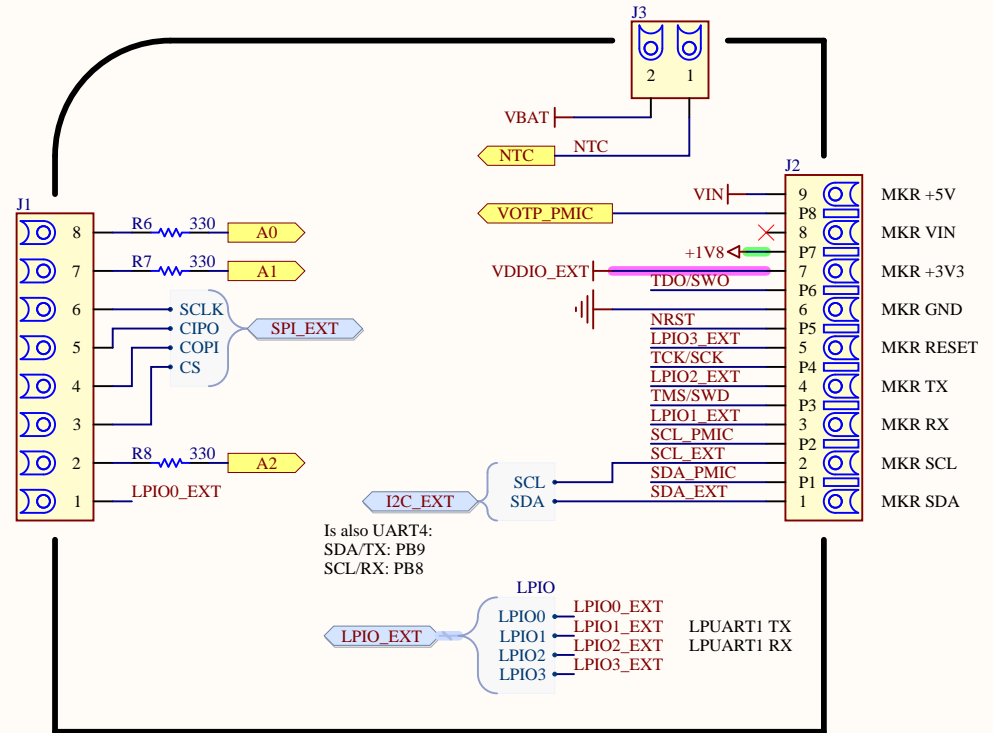


USB CONNECTOR

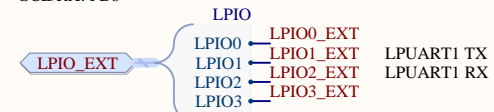
J7
ZX62-AB-5PA(31)



- MKR AREF
- MKR A0
- MKR A1
- MKR A2
- MKR A3
- MKR A4
- MKR A5
- MKR A6



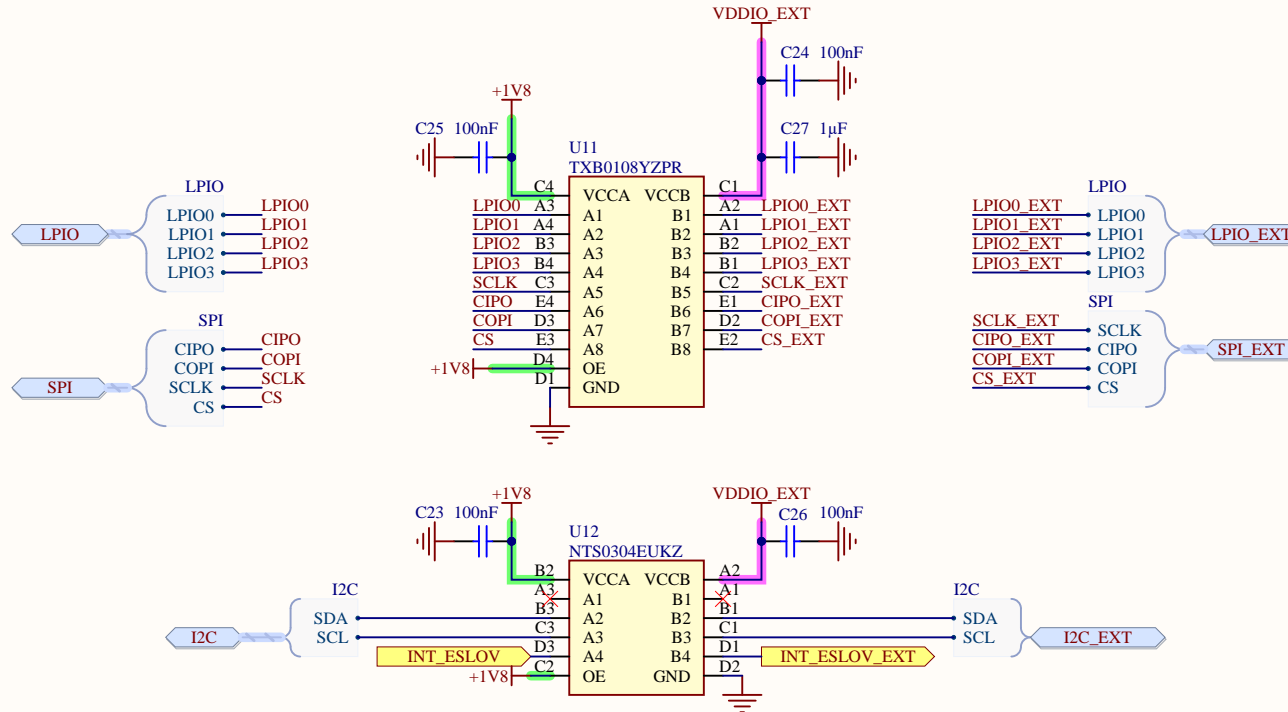
Is also UART4:
SDA/TX: PB9
SCL/RX: PB8





I2C attached to
PMIC, TOF,
accelerometer.
Voltage 1V8

Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

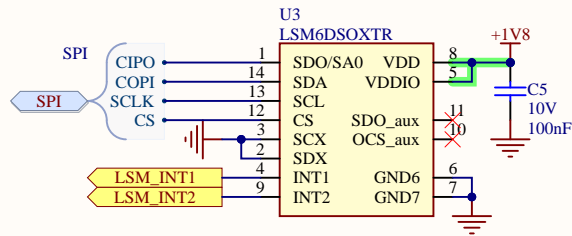
| | | | |
|--------------------------------|---------------------------------|---|--|
| Title: CONNECTORS | |   | |
| ID: ABX00051 | Revision: V1.4 | | |
| Date: 2022-11-23 | Time: 14:28:47 | Sheet 5 of 8 | |
| File: Connectors.SchDoc | Author: Silvio Navaretti | RevAuthor: Silvio Navaretti | |



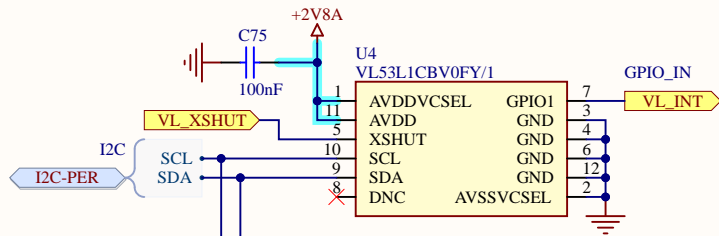
Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

| | | |
|------------------------------|-------------------------|---|
| Title: LEVEL SHIFTERS | |   |
| ID: ABX00051 | Revision: V1.4 | |
| Date: 2022-11-23 | Time: 14:28:49 | Sheet 6 of 8 |
| File: LevelShifters.SchDoc | Author: Francesca Cenna | RevAuthor: Silvio Navaretti |

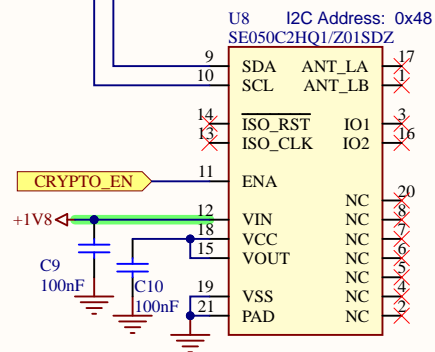
ACCELEROMETER



TIME OF FLIGHT I2C 0x52

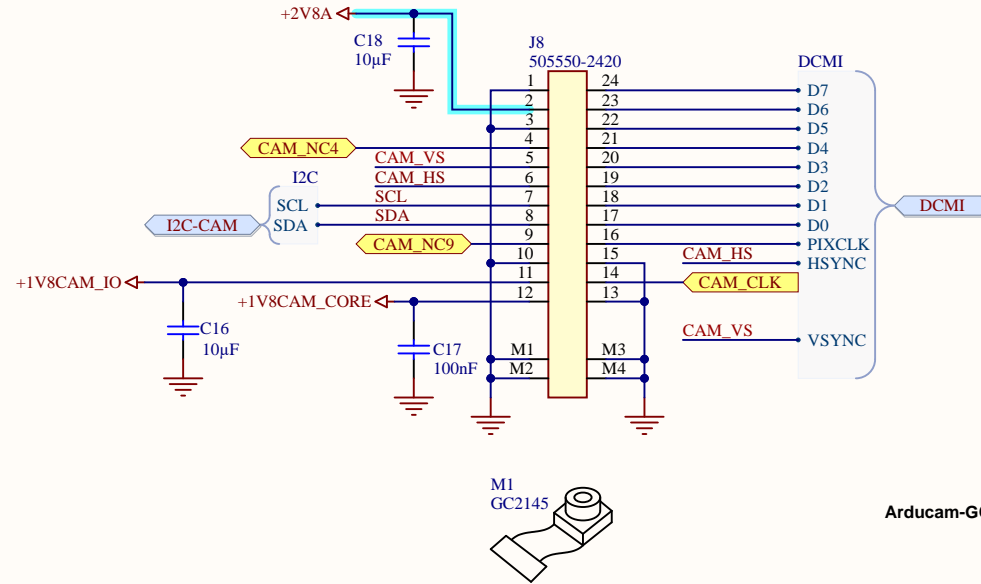


SECURE ELEMENT I2C 0x48



CAMERA

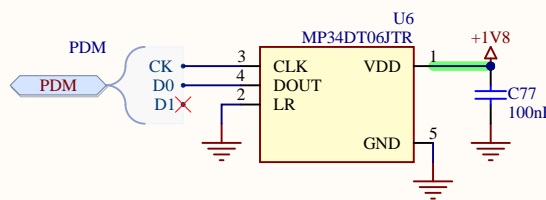
Arducam-GC2145



| CONNECTOR | PIN | DESCRIPTION |
|-----------|-----|-------------|
| | NO. | 定义 |
| | 1 | AGND |
| | 2 | AVDD2.8V |
| | 3 | GND |
| | 4 | NC |
| | 5 | FVLD |
| | 6 | LVLD |
| | 7 | SCL |
| | 8 | SDA |
| | 9 | NC |
| | 10 | DGND |
| | 11 | IOVDD1.8V |
| | 12 | DVDD1.8V |
| | 13 | DGND |
| | 14 | MCLK |
| | 15 | DGND |
| | 16 | PCLK |
| | 17 | D0 |
| | 18 | D1 |
| | 19 | D2 |
| | 20 | D3 |
| | 21 | D4 |
| | 22 | D5 |
| | 23 | D6 |
| | 24 | D7 |

Arducam-GC2145 camera module pinout

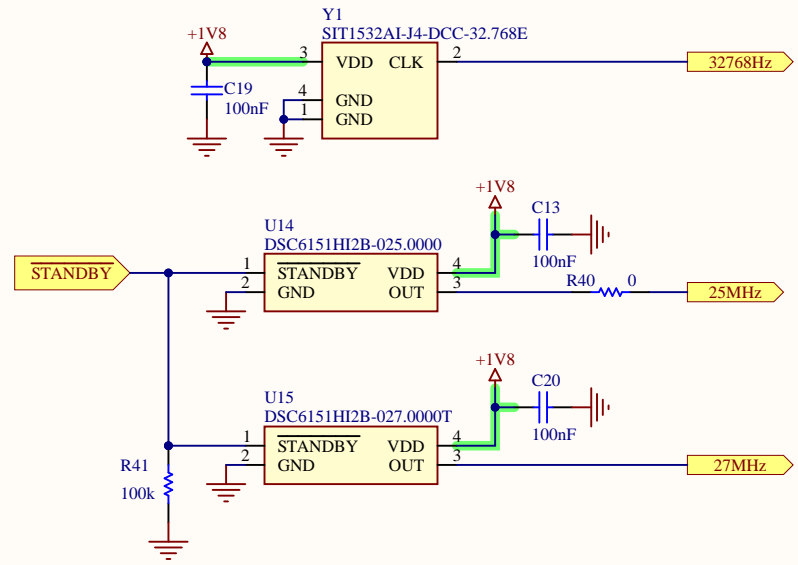
MICROPHONE



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

| | | | |
|-----------------------------|---------------------------------|------------------------------------|----------------------------|
| Title: MISCELLANEOUS | | Revision: V1.4 | |
| ID: ABX00051 | Date: 2022-11-23 | Time: 14:28:52 | Sheet 7 of 8 |
| File: Misc.SchDoc | Author: Silvio Navaretti | RevAuthor: Silvio Navaretti | |





Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

| | | | |
|---------------------------------|---------------------------------|---|--|
| Title: OSCILLATORS | |   | |
| ID: ABX00051 | Revision: V1.4 | | |
| Date: 2022-11-23 | Time: 14:28:56 | Sheet 8 of 8 | |
| File: Oscillators.SchDoc | Author: Silvio Navaretti | RevAuthor: Silvio Navaretti | |