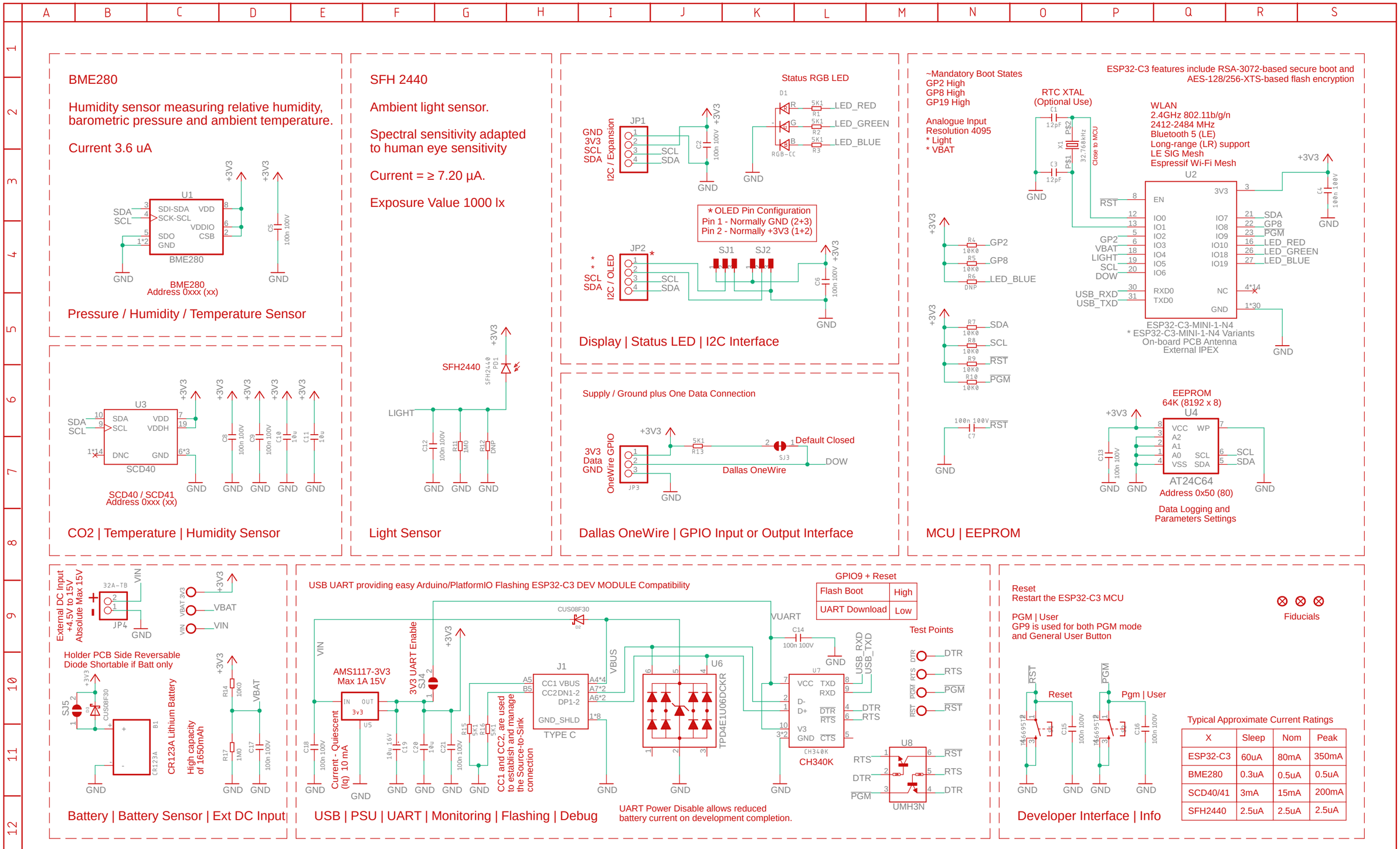
BME280
Humidity sensor measuring relative humidity, barometric pressure and ambient temperature.
Current 3.6 uA
U1
SDA
SCL
SDI-SDA
SCK-SCL
VDD
VDDIO
SDO
CSB
GND
BME280
BME280
Address 0xxx (xx)
Pressure / Humidity / Temperature Sensor
SFH 2440
Ambient light sensor.
Spectral sensitivity adapted to human eye sensitivity
Current = ≥ 7.20 µA.
Exposure Value 1000 lx
SFH2440
LIGHT
Light Sensor
Status RGB LED
LED_RED
LED_GREEN
LED_BLUE
GND 3V3 SCL SDA
I2C / Expansion
JP1
* OLED Pin Configuration
Pin 1 - Normally GND (2+3)
Pin 2 - Normally +3V3 (1+2)
JP2
SJ1
SJ2
I2C / OLED
Display | Status LED | I2C Interface
Supply / Ground plus One Data Connection
3V3 Data GND
OneWire GPIO
Default Closed
Dallas OneWire
DOW
Dallas OneWire | GPIO Input or Output Interface
~Mandatory Boot States
GP2 High
GP8 High
GP19 High
Analogue Input
Resolution 4095
* Light
* VBAT
RTC XTAL
(Optional Use)
Close to MCU
ESP32-C3 features include RSA-3072-based secure boot and AES-128/256-XTS-based flash encryption
WLAN
2.4GHz 802.11b/g/n
2412-2484 MHz
Bluetooth 5 (LE)
Long-range (LR) support
LE SIG Mesh
Espressif Wi-Fi Mesh
U2
ESP32-C3-MINI-1-N4
* ESP32-C3-MINI-1-N4 Variants
On-board PCB Antenna
External IPEX
EEPROM
64K (8192 x 8)
U4
AT24C64
Address 0x50 (80)
Data Logging and Parameters Settings
MCU | EEPROM
U3
SCD40
SCD40 / SCD41
Address 0xxx (xx)
CO2 | Temperature | Humidity Sensor
External DC Input
+4.5V to 15V
Absolute Max 15V
JP4
Holder PCB Side Reversable
Diode Shortable if Batt only
CR123A Lithium Battery
High capacity of 1650mAh
Battery | Battery Sensor | Ext DC Input
USB UART providing easy Arduino/PlatformIO Flashing ESP32-C3 DEV MODULE Compatibility
GPIO9 + Reset
Flash Boot High
UART Download Low
AMS1117-3V3
Max 1A 15V
3V3 UART Enable
Current - Quiescent (Iq) 10 mA
CC1 and CC2, are used to establish and manage the Source-to-Sink connection
J1
TYPE C
TPD4E1U06DCKR
CH340K
Test Points
DTR
RTS
PGM
RST
UART Power Disable allows reduced battery current on development completion.
USB | PSU | UART | Monitoring | Flashing | Debug
Reset
Restart the ESP32-C3 MCU
PGM | User
GP9 is used for both PGM mode and General User Button
Fiducials
Reset
Pgm | User
Typical Approximate Current Ratings
X Sleep Nom Peak
ESP32-C3 60uA 80mA 350mA
BME280 0.3uA 0.5uA 0.5uA
SCD40/41 3mA 15mA 200mA
SFH2440 2.5uA 2.5uA 2.5uA
Developer Interface | Info
DitroniX.net
1.2409.101 Production
(C)2019-2024 DitroniX Ltd
STEM
ESP32-C3 D1 SDK
ditronix.net
DitroniX Ltd – UK
AQIX ESP32C3 SDK v1.2409.101
AIR-QUALITY-MONITOR-IOT-WEATHER-STATION
Sheet: 1/1
Drawn/Approved: Dave Williams
28/09/2024 17:37