FASANI CORP

CINWRITE IT8951 ESP32S3 HAT

This PCB mission is to provide:

- ESP32S3 Espressif MCU with 2MB of external RAM
- WiFi
- BLE
- DS3231 real time clock and small CR1220 coin battery to keep time
- Fast 40Mhz SPI
- 3V to 5V step-up (And a way to enable this boost converter)
- 3.7v LiPo battery charger

You can find more about the Schematic, BOM and PCB Routing in the following link:

https://github.com/martinberlin/H-cinread-it8951
This is an open source designed Hardware so the goal is that other developers can collaborate, make merge requests to add new features, or fork it and send to fabrication their own version provided the LICENSE is respected and does not go to mass production.
APPLICATION IDEAS
Wall digital clock with temperature, Photo-frame that receives image per Bluetooth, sensors that connect per I2C or SPI and display useful information. WiFi download of API information to the epaper display, etc.

CURRENT KNOWN ISSUES

- Charges battery too strong: This will make the Tp4056 and the diode heat, making the RTC temperature measurements go 10°C or more degrees hot. You might disconnect JP1 jumper for a slower charge.
- I2C connection with board below does block I2C and our RTC connection that uses same protocol. Still need to research on this one.
SOLUTION: Do not connect SDA, SCL pins to board below.

VCOM Setting this value via LovyanGFX library using SPI communication on this board is working but having unexpected behavior that is not caused by my PCB.
HENCE, the VCOM printed in my demo, is the default which is too high for most EPAPERS being 2600 (-2.6 V)

This PCB is a free demo for GOODISPLAY that it can be used in any form you desire and shall be not returned to me. I also wanted to thank Freddie and all the team for all this years support and wish that this PCB design allows some of your customers to build powerful devices for the industry.

MARTIN from **FASANI CORPORATION**, Barcelona 15.Aug.2022