ChatterBox E-Paper Mini Node Assembly

Based on Lilygo T3S3 E-Paper

WARNING: Do not attempt unless you have a good understanding of electricity, wiring, and batteries. LiPo batteries can be dangerous and cause fires!

Print your Case	3D print the enclosure for your E-Paper Mini Node. There are 3 parts to the enclosure, which you can download here.
	STL Format Case Front Case Back On/Off Switch **3MF Format** All in One
Gather Components	You will need the following components:

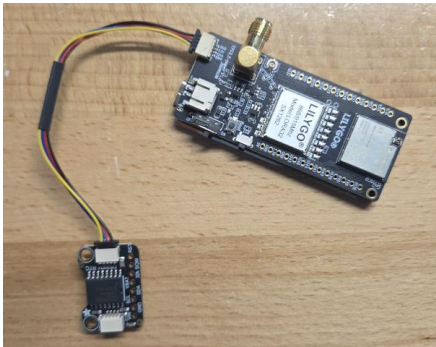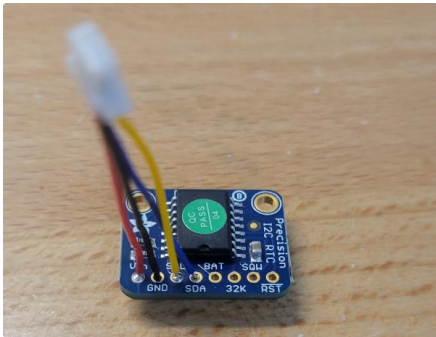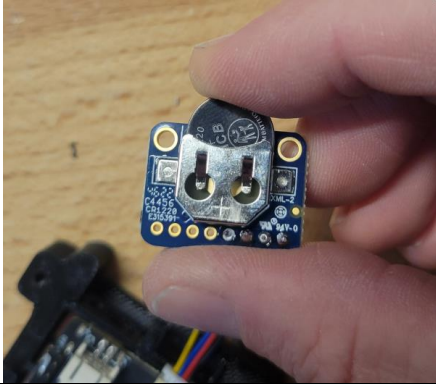|	
	[Lilygo T3S3 E-Paper](#) (Source: Rokland) The **Stemma version of DS3231 requires no soldering**, so you may prefer it. [Adafruit DS3231 Stemma](#) OR [DS3231](#) [2000 mAh LiPo Battery](#) [Qwiic Connector](#) [SD Card](#) [M2 Knurled Nuts](#) [M2 Bolts](#)
RTC - *Stemma* - Plug in RTC 	If you're using the Stemma verision of the RTC, simply plug it into the T3S3 as shown here.
RTC - *Non-Stemma*: Solder Qwiic Connector to RTC 	On the DS3231, we only connect VIN, GND, SDA, and SCL. I connect it here using a Qwiic connector, for easy removal/replacement, as well as chaining together other I2C components later on. The Quiic connector is soldered as follows: Red : VIN Black: GND Yellow: SCL Blue: SDA As far as PINS, the connections end up being: Pin 43 -> SCL Pin 44 -> SDA
RTC - *Non-Stemma*: Plug Qwiic Into T3S3	Plug the Qwwic connector to the Lilygo T3S3 as shown

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Add a Battery to the RTC	This RTC uses a CR1220. If you go with a different DS3231 , yours may use a different battery.
Press Nuts Into Case Back	Press knurled nuts into the 5 bolt holes of the case back as shown. You need to heat the nuts so they can seat into the case back. There are inexpensive soldering tips for this, but you can also use a heat gun
Gently Seat the T3S3 into the Case Front	You have to be careful here, and use your fingers to pry the window opening of the case front a little. Remember, the front of the T3S3 is thin glass and will easily break if pressure is put on the edges or corners. So as you're seating the T3S3 in place, do whatever you need to to ensure you're not harming the glass front.
Add the Power Switch	The power switch should snap into place fairly easily.
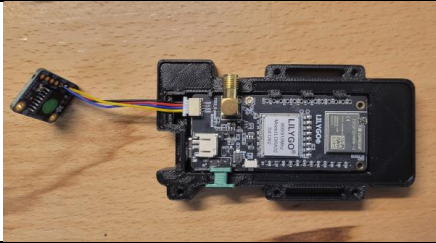
Connect the Battery 	Connect the battery and insert both the battery and RTC into the case back as shown. Be careful to make sure the polarity of the battery is correct for the T3S3. Markings on the T3S3 show +/- to help you get this right. The plug will not necessarily have the correct polarity, as China-based sources (Amazon resellers) tend to send opposite polarity randomly.
Close the Case, Add Antenna/SD 	Close/bolt the case back in place, add your antenna, and insert a compatible SD card as shown.
Flash the Device 	Visit https://www.offgridcomms.club/firmware/ to flash your device.
Disconnect USB and Power On	If everything works properly, the device screen will flash for 5-10 seconds and you should see a screen similar to the one here. This means it's ready for your root device to onboard.