

ChatterBox Mini Node Assembly

Based on Lilygo T3S3 (OLED)

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

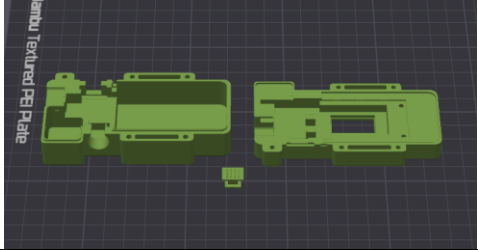

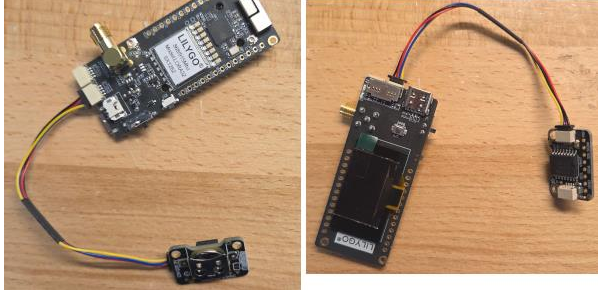
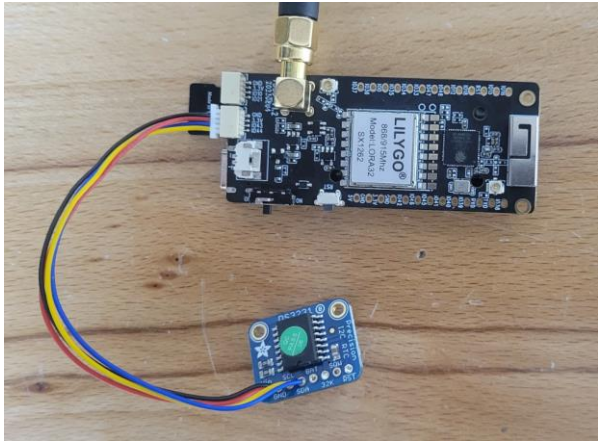
Mini Node

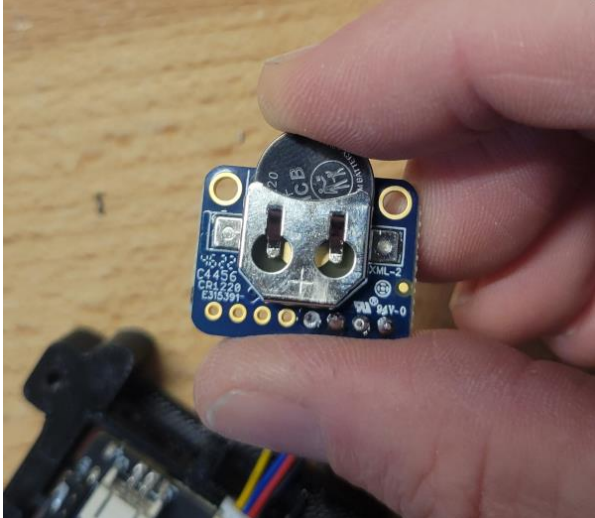
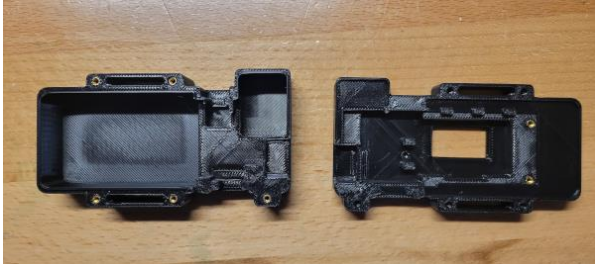

- * Increased Battery Life
- * Lower cost
- * Capable of displaying broadcast messages
- * Smaller pocket-sized form factor
- * High precision realtime clock
- * More




Print your Case

3D print the enclosure for your Mini Node. There are 3 parts to the enclosure, which you can download [here](#).

	<p> STL Format 3MF Format </p>
<p>Gather Components</p> 	<p> Lilygo T3S3 E-Paper </p> <p> The Stemma version of DS3231 requires no soldering, so you may prefer it. Adafruit DS3231 Stemma OR DS3231 </p> <p> 2000 mAh LiPo Battery Qwiic Connector SD Card (optional, recommended) M2 Knurled Nuts M2 Bolts </p>
<p>RTC - Stemma - Plug in RTC</p> 	<p> If you're using the Stemma version of the RTC, simply plug it into the T3S3 as shown here. </p>
<p>RTC - Non-Stemma: Solder Qwiic Connector to RTC</p> 	<p> 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. </p> <p> The Qwiic connector is soldered as follows: Red : VIN Black: GND Yellow: SCL Blue: SDA </p> <p> Plug Qwiic Into T3S3. As far as PINS, the connections end up being: Pin 43 -> SCL Pin 44 -> SDA </p>

	<p>Although not shown, you can substitute a DFRobot 1103 GNSS/RTC module here, if you switch the DFR to I2C (instead of UART) and follow the same pin mappings as above for SDA/SCL connections.</p>
<p>Add a Battery to the RTC</p> 	<p>The Adafruit RTC takes a CR1220</p>
<p>Press Nuts into Enclosure Back and Front as Shown</p> 	<p>There are inexpensive soldering tips for this, but you can also use a heat gun and screwdriver.</p>
<p>Add all Components to Enclosure as Shown</p> 	<p>Connect the battery and insert both the battery and RTC into the case back as shown.</p> <p>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.</p> <p>The plug will not necessarily have the correct polarity or match the image shown.</p>

Secure PCB to case front with M2 Screws	<p>The two PCB screw holes (on the T3S3) should line up with knurled nuts on the case front. You can secure the T3S3 to the case front by using one or two short M2 screws here.</p>
Close the case and install an antenna	<p>Use M2 screws to secure the case shut, and attach the antenna of your choice.</p>
Flash the Device 	<p>Visit one of the following sites to flash your device:</p> <p>chatters.io/flash offgridcomms.club/firmware/ meshcomms.club chatterbuilds.pages.dev</p>
Power on and Onboard	<p>The new node should power up and go through a quick automatic setup cycle. This can take several seconds, after which it will reboot, and be in "Onboard Mode", waiting for you to use your root device and onboard this new node into the your cluster.</p>