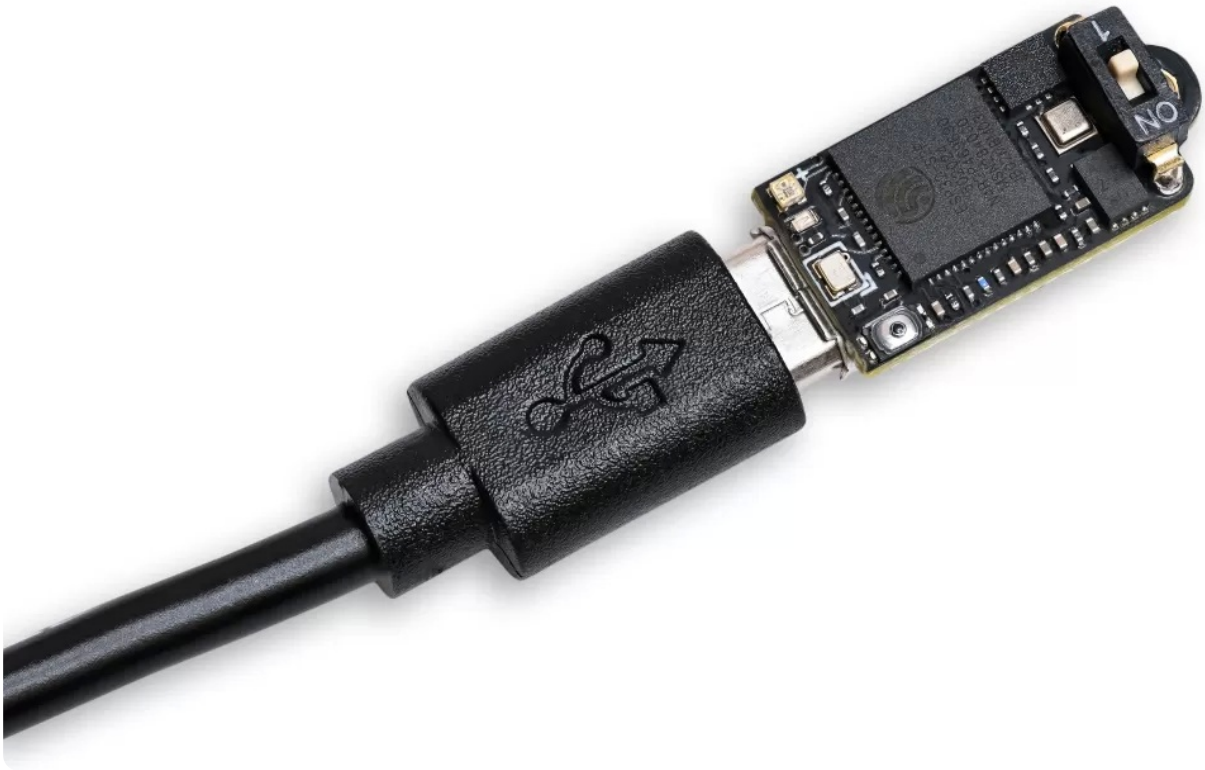
USB connection

Altimeter Cloud



The Nano altimeter has an onboard micro-USB port. It works as a USB drive for your flight logs and settings, so you won't need to dig around for a custom reader or cable.

Just connect your Nano to a PC, laptop, tablet or smartphone and you should be able to access your files. The power switch can stay off in USB mode.

WORTH KNOWING

The Nano has two modes: flight mode and USB mode. Whenever a USB cable is connected it is in USB mode, and it never detects a launch. Unplug the cable with the power switch on and it restarts into flight mode, ready to fly.

In USB mode

In USB mode the LED breathes slowly in blue. To see the battery level, turn the power switch on: a short coloured flash every 3 seconds then shows the charge. With the switch off it will not show you.

LED	Meaning
Slow blue breathing	Connected as a USB drive
Red flash every 3 s	Battery under 3.70 V (roughly under 15%)
Orange flash every 3 s	Battery 3.70 to 3.80 V (roughly 15 to 40%)

Purple flash every 3 s	Battery 3.80 to 4.00 V (roughly 40 to 80%)
Green flash every 3 s	Battery 4.00 V and over (roughly 80% to full)
Three quick purple blinks, then one green flash	A USB serial command received, then a setting applied
10 s of fast red, then dark	The board got too hot on USB and shut down to protect itself

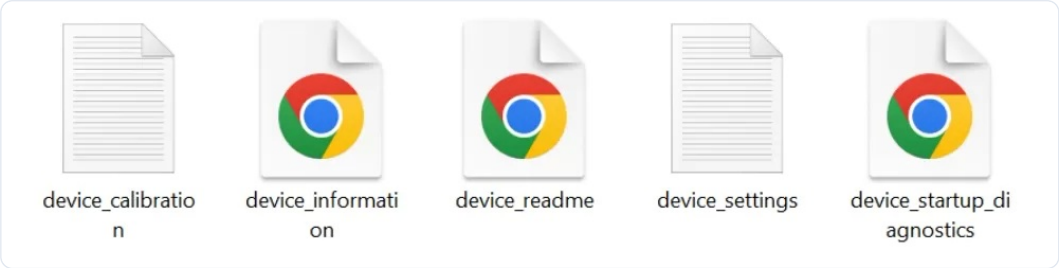
A short press of the button in USB mode plays the last flight number and apogee on the LED, the same as on the pad.

The ALTCLOUD drive

On a PC you will see the device called "ALTCLOUD" in your This PC folder.

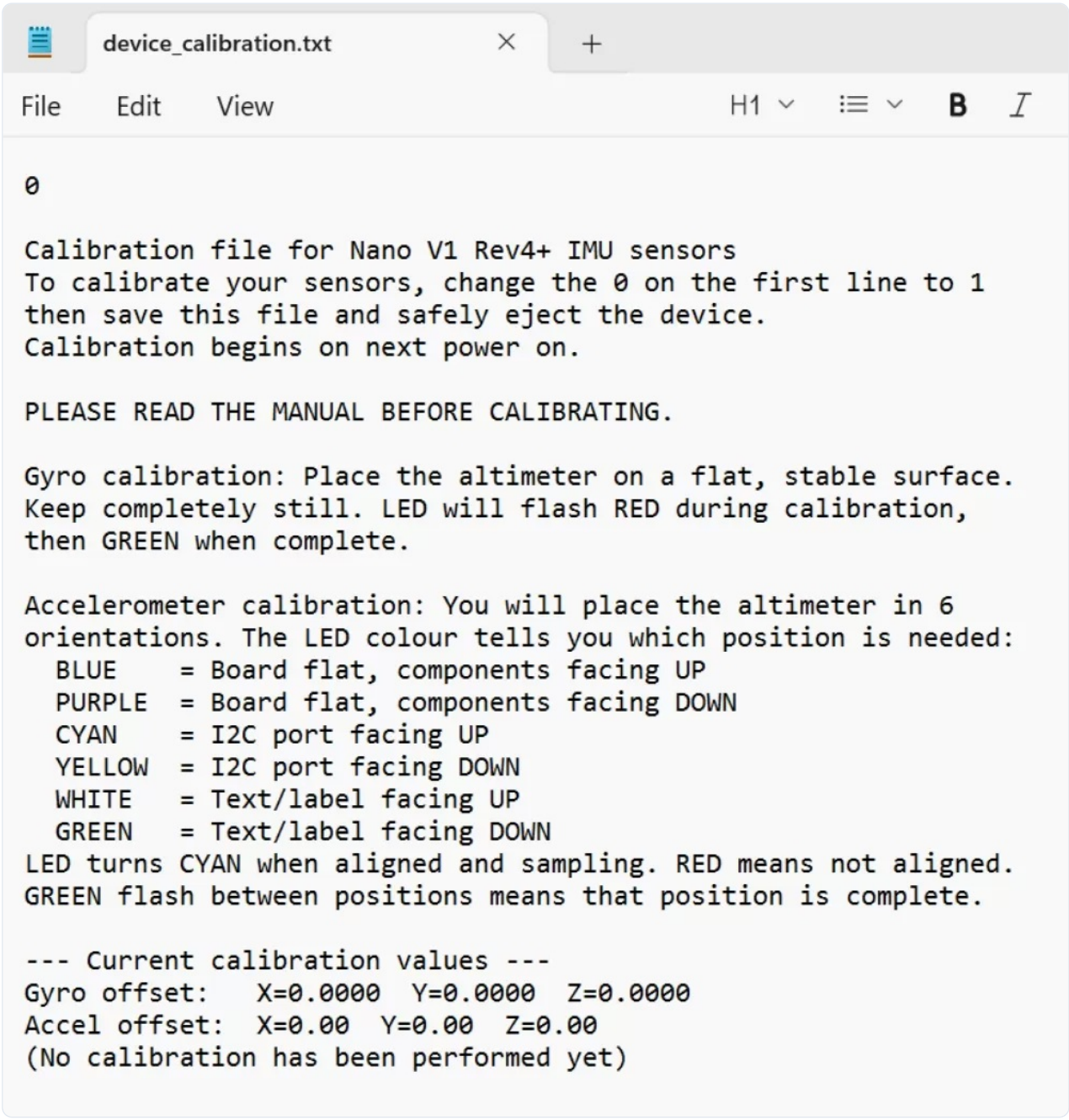


Once you open the drive you will have a few default files, and any flight logs and summaries will also be available here. You can drag and drop flight logs onto the Altimeter Cloud upload tool to view their charts and data in an easy-to-manage format.



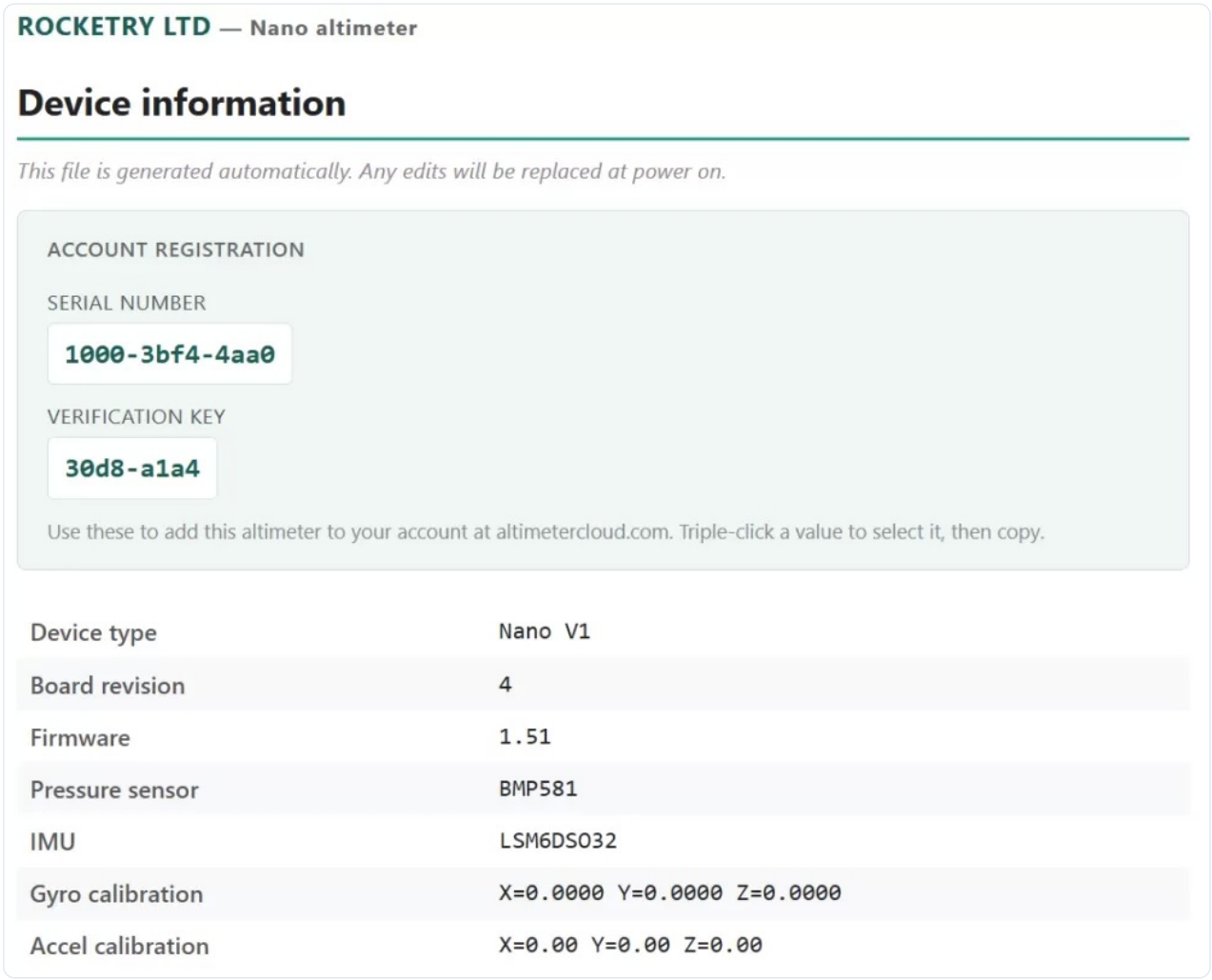
If you have hardware revision 1, 2 or 3 you won't see a device_calibration file, as these boards do not have the IMU. Any other files you put in the top level of the drive are deleted the next time it starts; folders are left alone.

What each file is for



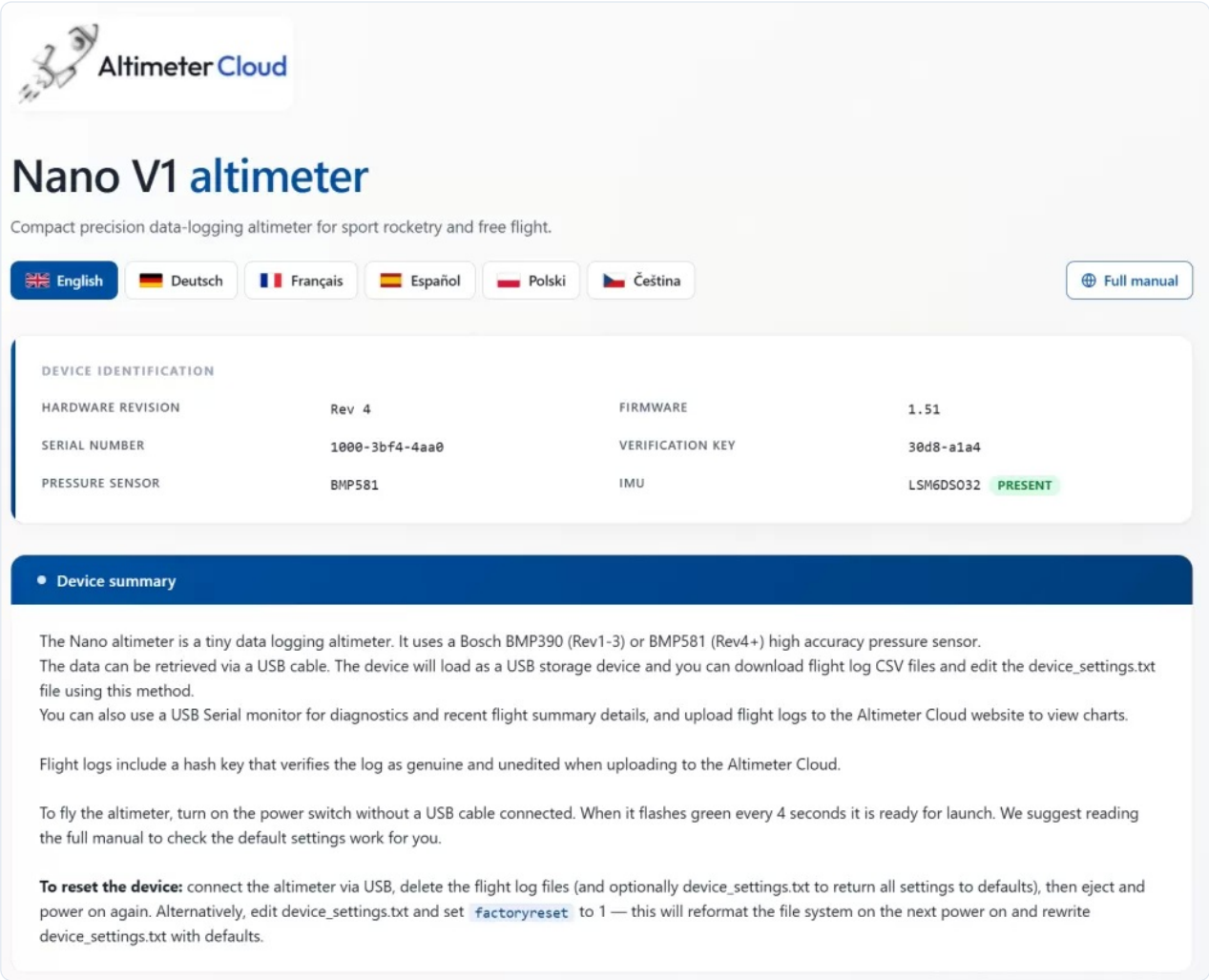
device_calibration.txt

An editable file that lets you calibrate the motion sensor on your Nano (Rev 4 and later). Please read the calibrating the IMU page to do this.



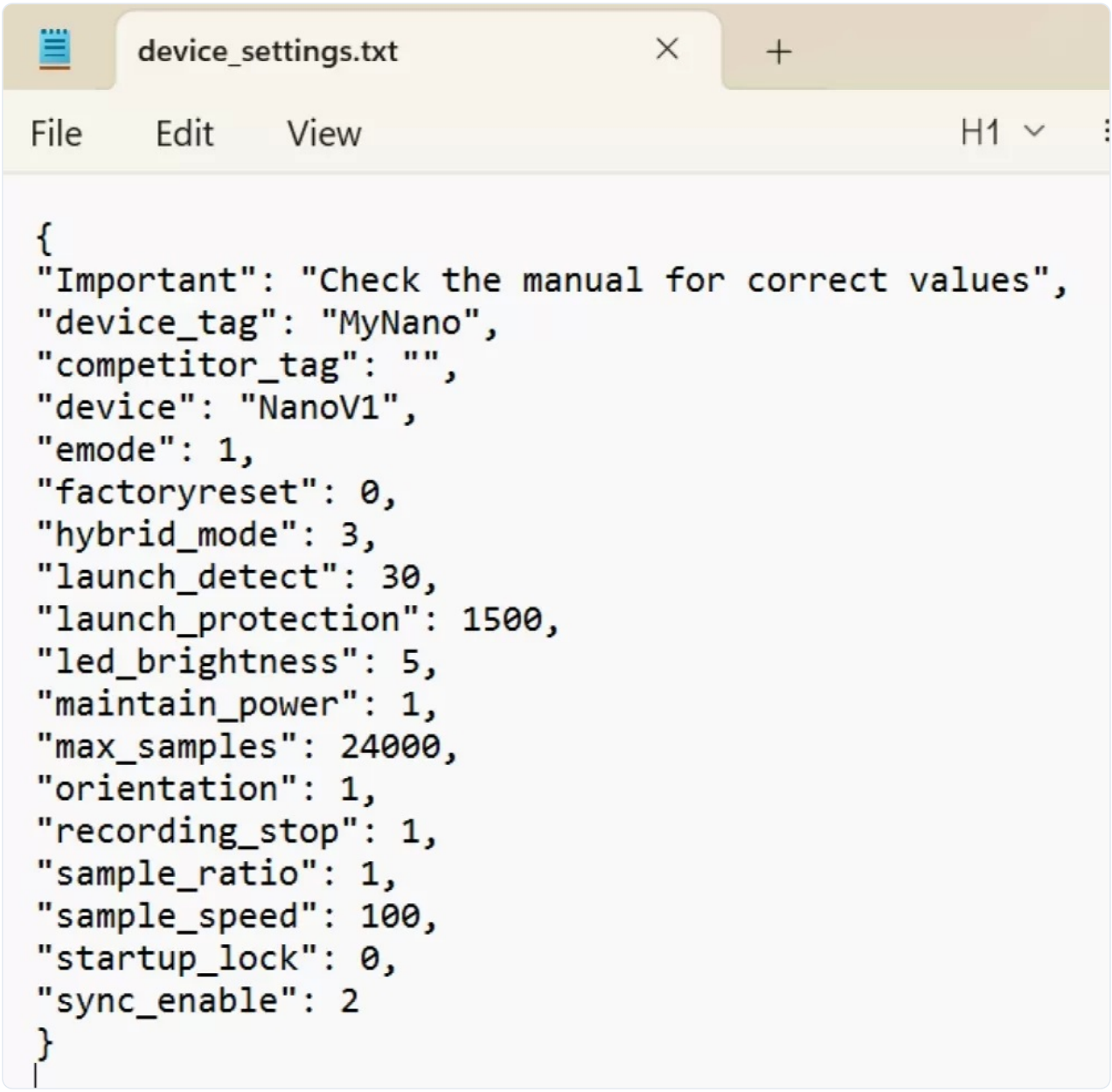
device_information.html

A page that opens in your web browser with information about your Nano, rewritten every time it starts. It includes the serial number and an 8-character verification key that you will need to add the Nano to your account on the Altimeter Cloud, should you wish to.



device_readme.html

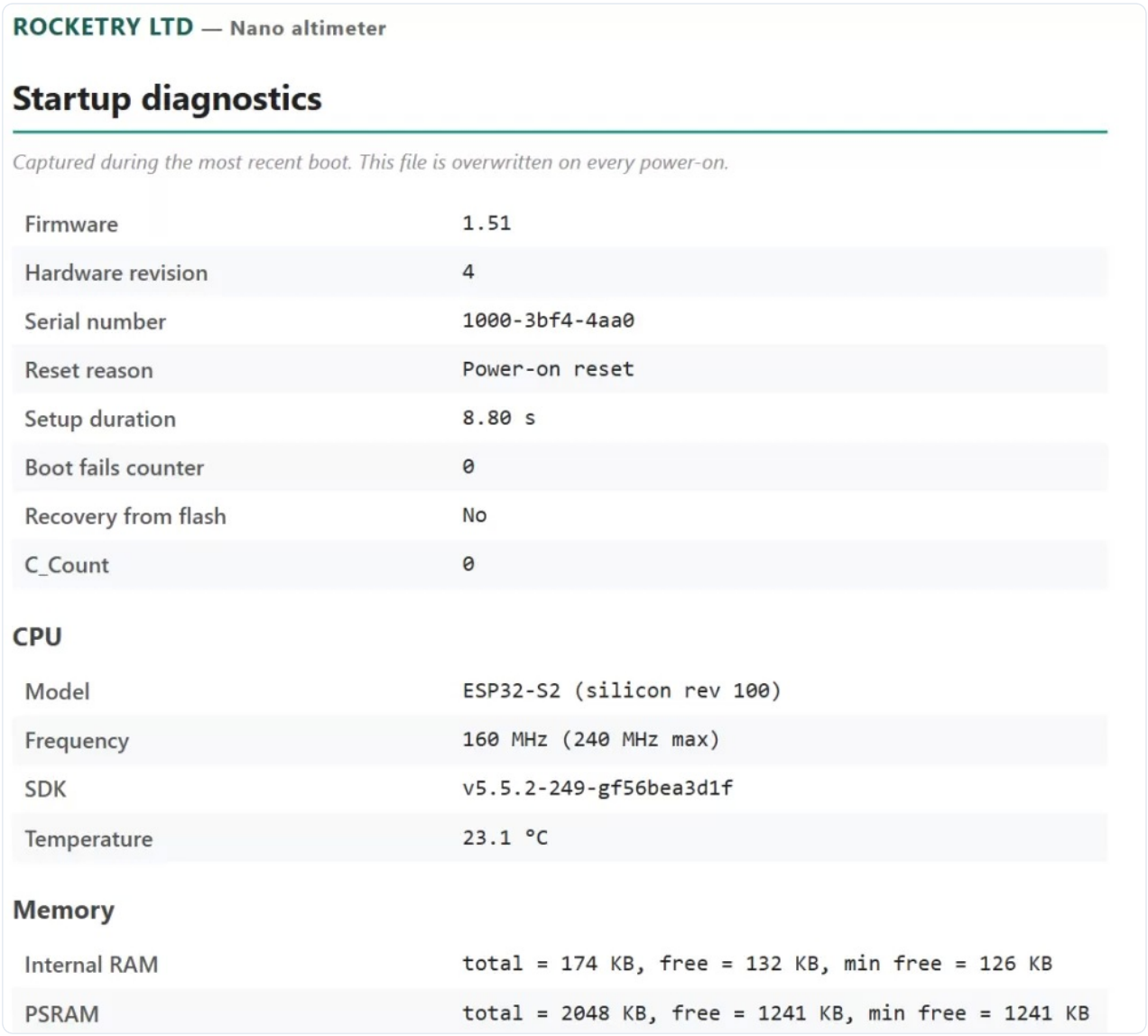
A short guide to the settings and what they do, in English, German, French, Spanish, Polish and Czech. So if you're stuck in the field without internet you can still find some handy information.



device_settings.txt

The Nano's settings, in JSON format. You can find out more on the settings page.

The main thing to note is that an error in this file, or an unsupported value, makes the Nano replace it with the default settings on its next power on. So it's always worth checking the settings page for the correct values, and keeping the commas and quotes intact.



ROCKETRY LTD — Nano altimeter

Startup diagnostics

Captured during the most recent boot. This file is overwritten on every power-on.

Firmware	1.51
Hardware revision	4
Serial number	1000-3bf4-4aa0
Reset reason	Power-on reset
Setup duration	8.80 s
Boot fails counter	0
Recovery from flash	No
C_Count	0

CPU

Model	ESP32-S2 (silicon rev 100)
Frequency	160 MHz (240 MHz max)
SDK	v5.5.2-249-gf56bea3d1f
Temperature	23.1 °C

Memory

Internal RAM	total = 174 KB, free = 132 KB, min free = 126 KB
PSRAM	total = 2048 KB, free = 1241 KB, min free = 1241 KB

device_startup_diagnostics.html

A page with more in-depth information about your Nano and its startup, including the previous startup (usually the one before your last flight). It's handy to attach to your email if you have a problem and need support from us.

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batterytest.txt

A built-in battery test that measures how long your battery really lasts. The instructions are inside the file, and there is more on the battery page. After a test has run you will also find batterytest.html here, with the discharge curve.

Flight logs

Each saved flight adds two files:

- `flightlog<tag>-<n>.aclz` (or .csv if you have chosen CSV logs), the flight log itself. See the flight log format page.
- `flightinfo<tag>-<n>.html`, a page you can open in your web browser with a summary of that flight. See the flight info page page.

The tag is the last four characters of the Nano's serial number, so logs from several Nanos can share one folder

without clashing, and n is the flight number. The Nano keeps up to 39 flights (subject to space and log size) and removes the oldest automatically at power on. Flight numbers keep counting for life.

USB tools on the Altimeter Cloud

With firmware 1.60 or later you can also work with the Nano straight from your browser over the same USB cable, using Google Chrome, Microsoft Edge or Opera on a desktop or laptop:

- Nano USB Settings reads and changes every setting without editing the settings file by hand. Changes are applied the next time the Nano starts. See the settings page.
- Upload straight from your altimeter lists the flights on the Nano, marks the ones already on the Altimeter Cloud and uploads the rest, without you opening the drive.

Phones and tablets

Some phones and tablets will open the Nano's drive the first time but refuse to open it again. If that happens, set `android_compat` to 1 in the settings and the Nano will present itself as a new drive each time it starts.

Snapshot screen support



The Nano can also use its USB port to connect to the Snapshot screen. This lets you view a snapshot of your latest flight and your device settings. When it's attached, the Nano's LED shows green fading to pale pink.

It's a very handy device at competitions where lots of altimeters need to be checked, and lets you confirm that a Nano

is blank, its serial number, competitor tag, device tag and plenty more. You can find out more about the Snapshot screen here.