



# balenaFin

Document Type	FAQ
Product ID:	BLNFN100001 (20173009)
Product Name	BalenaFin
Product Version	1.0.0
Document Version	1.0.0
Author	Carlo Maria Curinga
State (Draft/Proposed/Approved)	Proposed

## Revision history

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Date (dd/mm/yyyy)	Version	Author	Description
10/01/2019	0.0.1	Carlo Maria Curinga	First release

## FAQ

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### Is Balena Fin compatible with the Raspberry Pi Compute Module with integrated eMMC (CM1, CM3) ?

No. Balena Fin is only compatible with the eMMC-less Raspberry Pi compute modules (aka `lite` )

### Is Balena Fin compatible with standard rasbian or its derivates?

It will boot, but some peripherals won't work without some minor modification:

- WiFi+BT: while the `balena-fin` device tree overlay is merged upstream, you still need to set in in your `config.txt` ( `dtoverlay=balena-fin` ). You also need to compile and install the drivers, a process we are working on simplifying. In the meantime, we can provide you guidance on how to do it yourself
- RTC (Real Time Clock): while the `balena-fin` device tree overlay is merged upstream, you still need to set in in your `config.txt` ( `dtoverlay=balena-fin` ).
- RGB LED: while the `balena-fin` device tree overlay is merged upstream, you still need to set in in your `config.txt` ( `dtoverlay=balena-fin` ).
- miniPCIe airplane mode switch GPIO: while the `balena-fin` device tree overlay is merged upstream, you still need to set in in your `config.txt` ( `dtoverlay=balena-fin` ).
- DSI and CSI connectors (camera and display) + automatic HAT identification over I2C: As per the standard Raspberry Pi Foundation design (dt-blob.bin section of <https://www.raspberrypi.org/documentation/hardware/computemodule/cm-peri-sw-guide.md> ) you need to add the Balena Fin `dt-blob.bin` (<https://github.com/resin-io/balena-fin/raw/master/software/dt-blob/dt-blob.bin>) in the root of the boot partition

### Is Balena Fin HAT compliant?

Yes it is, including power over HAT (5V @2.5A)

### Can I deploy Balena Fin in my Raspberry Pi 3 resin.io application?

Yes, we support mixed fleet <https://resin.io/blog/evolve-your-fleet-manage-multiple-device-types-in-one-application/>

### Does the RTC always run on its battery?

No - the RTC only runs on its battery when the device is powered off. This means that the real battery lifetime is way longer than the nominal one.

### How can I power Balena Fin?

You can power the board from the DC 5.5/2.1mm barrel jack connector or the 2 position phoenix connector with any input voltage between 6 and 24V with at least 12.5W (that is 12V @1A for example). You can also power Balena Fin from its 5V HAT pins with 5V @2.5A

## I cannot see any wireless interface listed, wifi does not work

Please make sure you have the `balena-fin` device tree overlay set in in your `config.txt` ( `dtoverlay=balena-fin` ).

## My HAT does not work on the Balena Fin unless I manually set up things that are automatic on a Raspberry Pi 3

Please make sure you have the Balena Fin [dt-blob.bin](https://github.com/resin-io/balena-fin/raw/master/software/dt-blob/dt-blob.bin) (<https://github.com/resin-io/balena-fin/raw/master/software/dt-blob/dt-blob.bin>) in the root of the boot partition

## Raspberry Pi camera or display don't work on my Balena Fin

Please make sure you have the Balena Fin [dt-blob.bin](https://github.com/resin-io/balena-fin/raw/master/software/dt-blob/dt-blob.bin) (<https://github.com/resin-io/balena-fin/raw/master/software/dt-blob/dt-blob.bin>) in the root of the boot partition

## WiFi signal is very weak

Please make sure you have the antenna switch on the right position based on your setup (OFF for internal antenna, ON for external antenna)

## My Balena Fin is heating a lot while running my application

The thermal performance of the Raspberry Pi Compute Module 3 Lite ( aka CM3L ) on Balena Fin has been benchmarked against the reference IO carrier board reference design from the Raspberry Pi Foundation and the Raspberry Pi 3 model B. IF your application does GPU intensive logic we suggest adding an heatsink to the SoC of the CM3L (the ones for the Raspberry Pi 3 model B are compatible)