

25th June, 2019

# BLIP

## Overview and features

Blip is a development board for Bluetooth Low Energy (BLE) and 802.15.4 based wireless applications, based on the Nordic Semiconductor nRF52840 SoC. It has a Black Magic Probe compatible programmer and debugger on-board, along with temperature/humidity sensor, ambient light sensor, and a 3-axis accelerometer. It is usable to prototype for very low power applications, and debugger and regulator can be disconnected when only SoC needs to be powered.



### Features:

- Raytac MDBT50 module with Nordic nRF52840 BLE/802.15.4 SoC
- 32-bit ARM Cortex-M4F processor, 1MB flash + 256 kB RAM
- Power Supply: USB, Lipo, Vext 1.8V - 3.3V
- Built in 3.3V LDO for USB and Lipo
- MicroSD slot
- Bluetooth 5 support for long range and high throughput.
- 802.15.4 radio support
- LIS2DDH12 High-performance 3-axis “femto” accelerometer
- Optical Sensor LTR-329ALS-01
- Si7006-A20 I2C humidity and temperature sensor.
- On board STM32F103CBT6 Black magic probe debugger.

Operating conditions	
Maximum Input Voltage	<ul style="list-style-type: none"> <li>- USB powered : 5V - power switch on <b>REG</b> position</li> <li>- <b>Vext</b> = 1.8V to 3.3V - power switch on <b>VEXT</b> position</li> <li>- <b>Vbat</b> = 4.2V</li> </ul>
Temperature Rating	-40 to +85
On-board voltage regulator	3.3V, 250mA maximum current output

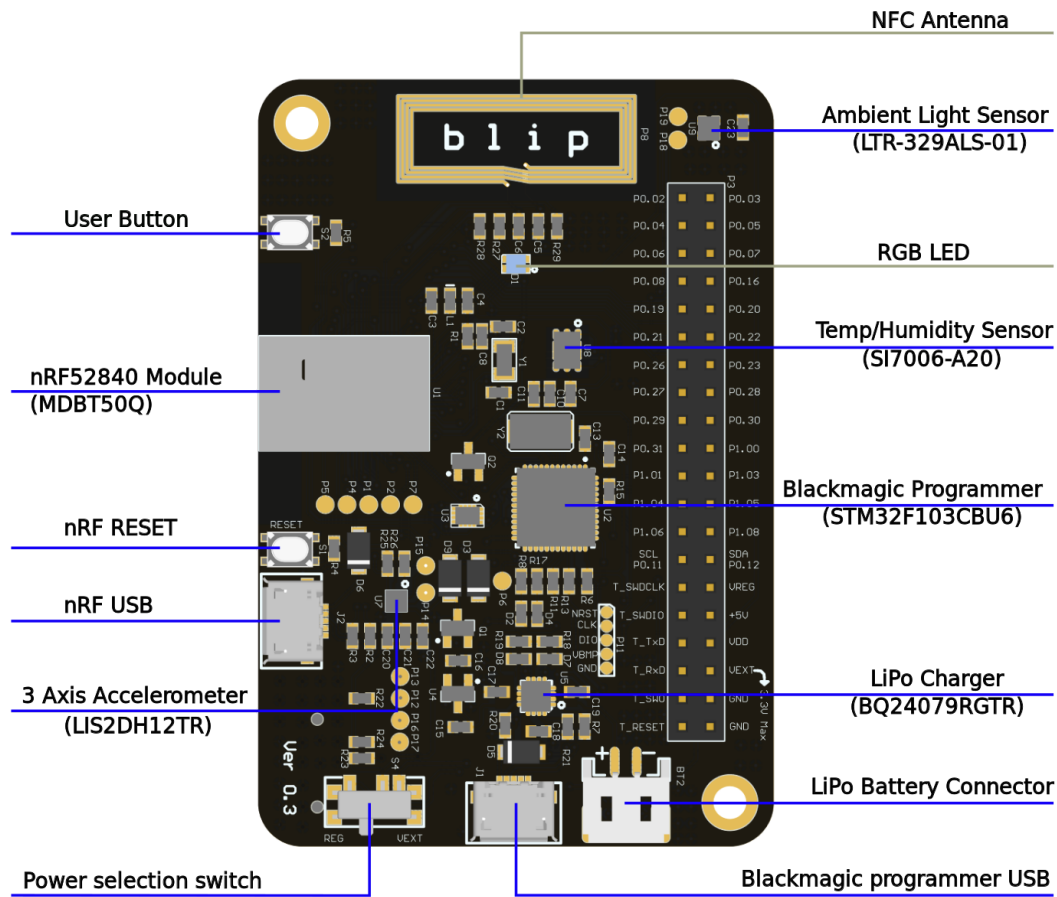
### Power supply options

Blip can be powered in three ways, either using (either of the two) USB, battery connector, or using the VEXT header on the board. Blip has a power selection switch to select power supply option, select **VREG** for USB and battery connector, **VEXT** headers for external power source.

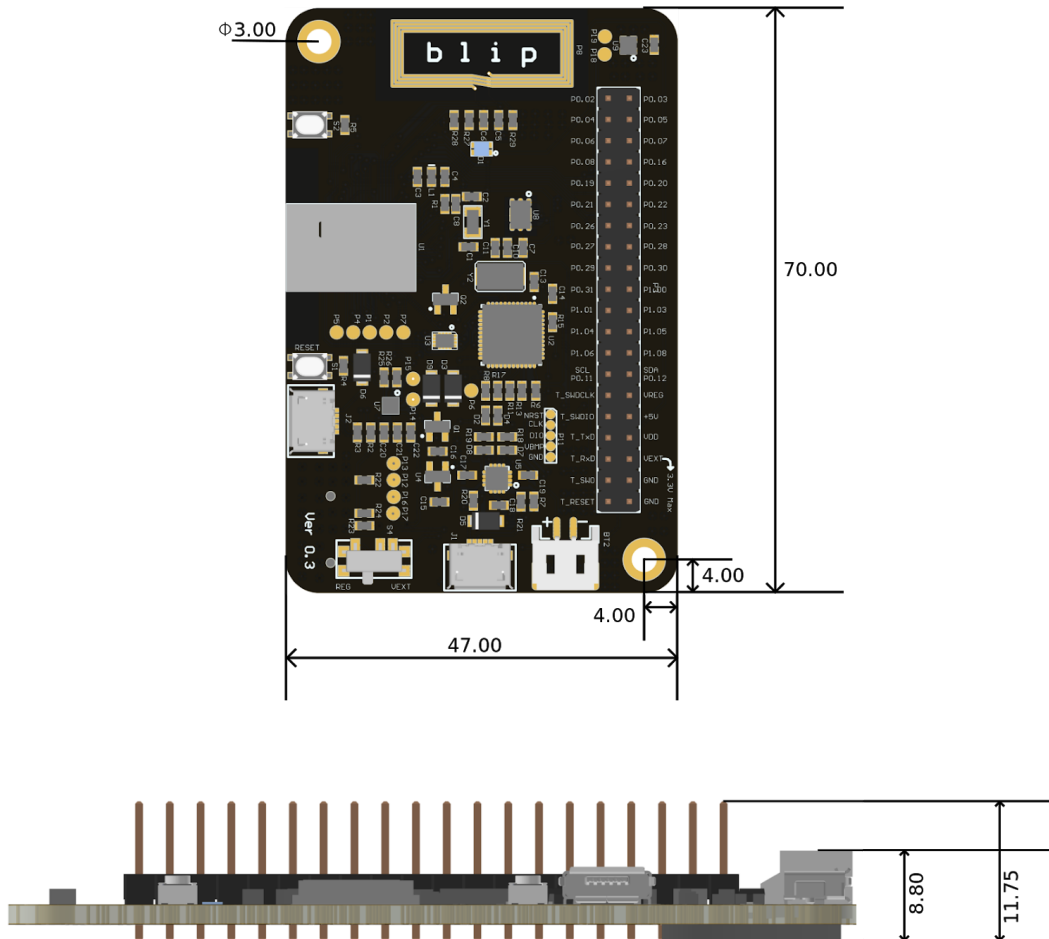
- In **VREG** position, Blip is powered by output of on-board 3.3V regulator. (Vdd = Vreg)
- In **VEXT** position, Blip is directly powered from voltage at **VEXT** pin. (Vdd = Vext)

[Warning: **VEXT** must not exceed 3.3V]

### Board Layout



## Board dimensions



NOTE: All Dimensions are in mm

## References:

1. Getting started guide for Blip - <https://docs.electronut.in/blip/>
2. [Schematic](#) for Blip - available at *Getting started guide*

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