

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"> - USB powered : 5V - power switch on REG position - Vext = 1.8V to 3.3V - power switch on VEXT position - Vbat = 4.2V
Temperature Rating	-40 to +85
On-board voltage regulator	3.3V, 250mA maximum current output

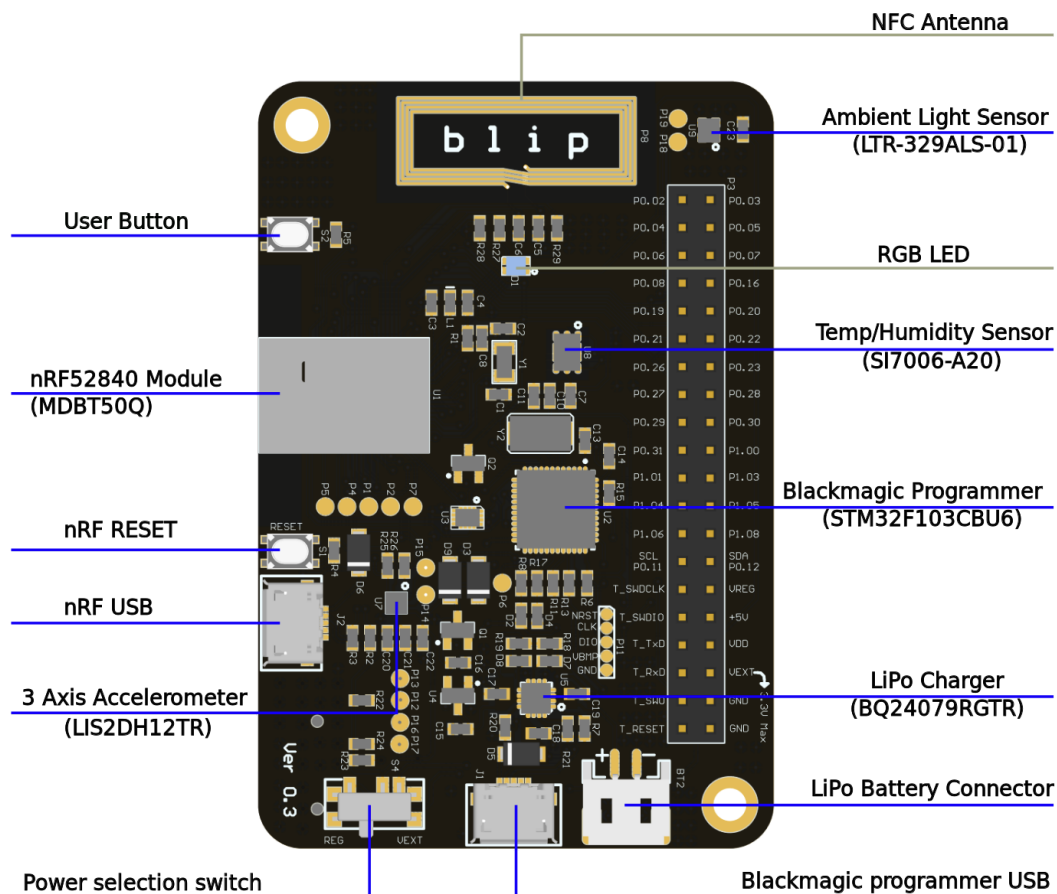
Power supply options

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.

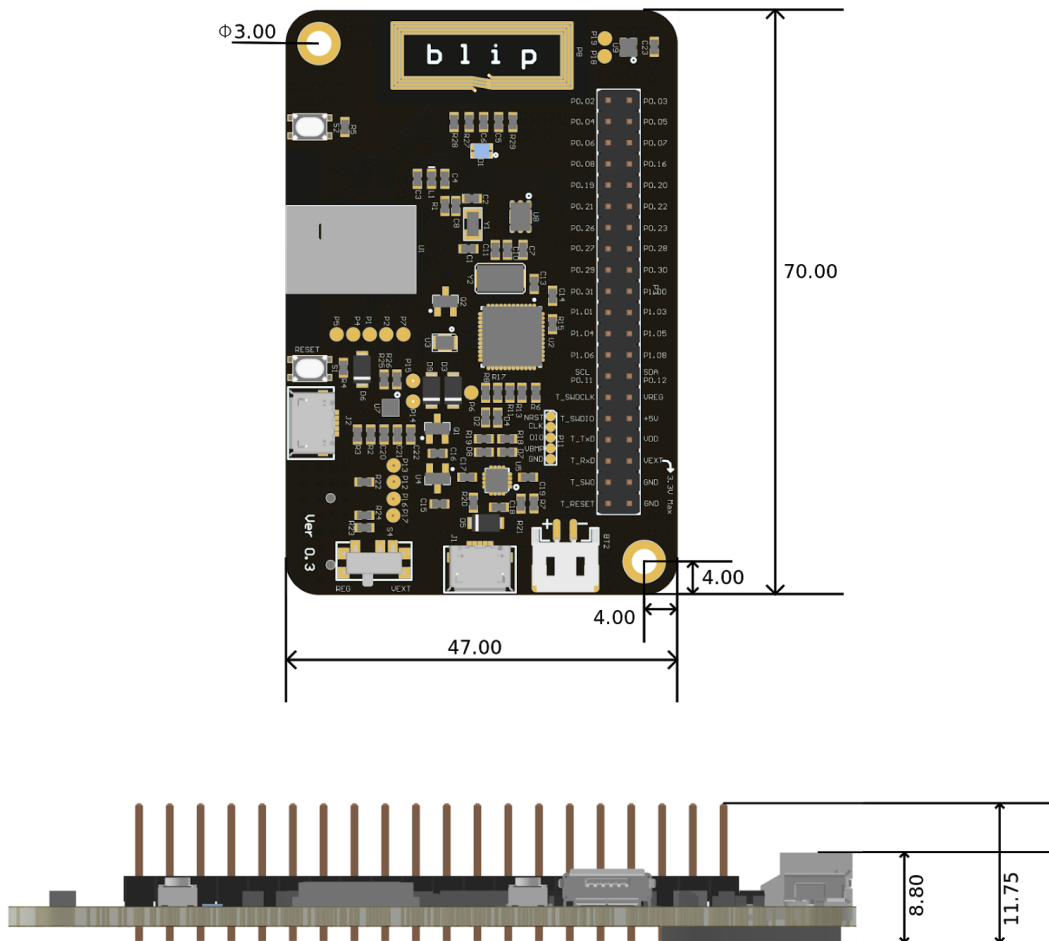
- In **VREG** position, Blip is powered by output of on-board 3.3V regulator. ($V_{dd} = V_{reg}$)
- In **VEXT** position, Blip is directly powered from voltage at **VEXT** pin. ($V_{dd} = V_{ext}$)

[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*