HGLRC F4 V6PRO (FC&VTX)

Manual

Specifications

CPU: STM32F405RGT6 , dual open 8K

MPU:MPU6000-SPI connection

Built-in 5V/3A BEC output

Direct welding ESC PDB

Built-in current sensor

Black box FLASH 16M large capacity storage

Input voltage: 2-6S

Board thickness: 1.6MM

copper foil thickness: 2OZ * 8

Maximum current: 200A

FPV Transmitter: 0/25/100/200/400/600mW 48CH switchable transmitter

Frequency: 5.8GHz 6 bands 48 channels, with Raceband: 5362-5945 MHZ

Hole mounting size: M3 30.5 * 30.5mm

Size: 44.7*40.5mm(L*W)

Weight: 15.6g

Feature:

Built-in BETAFLIGHT OSD to achieve remote control PID parameters

Buzzer / programming LED / voltage monitoring / BLHELI-S ESC programming;

Support SBUS / PPM / DSMX and other mainstream mainstream receiver;

Warning:

Please read the cautions as follows, otherwise stability of your flight controller cannot be ensured, your flight controller will even get damaged.

● Keep focus on the polarity. Check carefully before power supply.

● Cut off the power when you connect, plug and pull anything.

● Don't connect 5V or electrical power interfaces, otherwise your flight controller will catch fire.

● The refresh rate of PID and Gyroscope is up to 8K.

Flight control characteristics

44.7MM

40.5MM
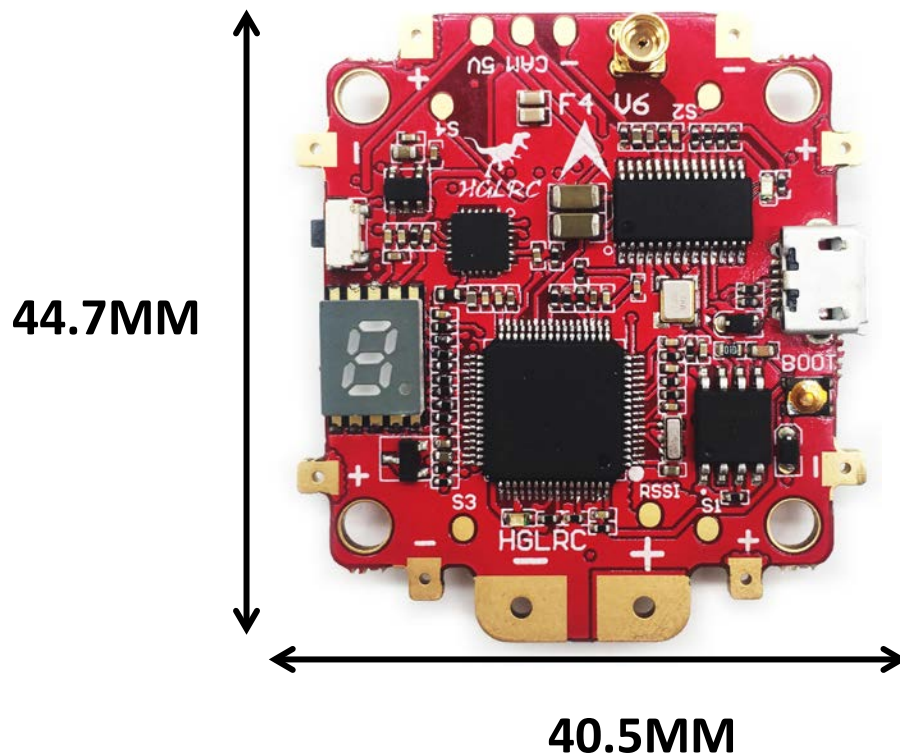
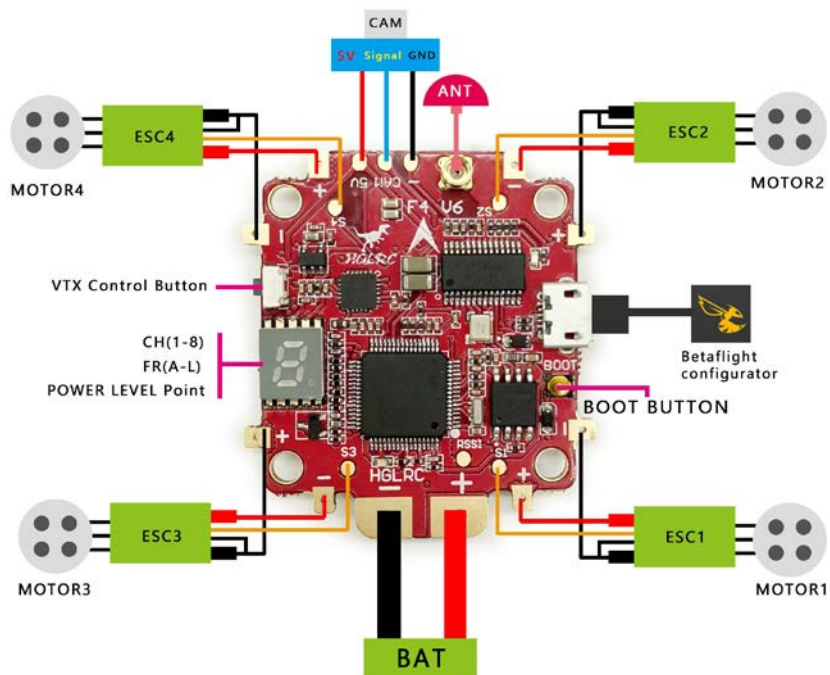**Technical Parameters：**

Size: L*W*H=44.7*40.5*8.7MM

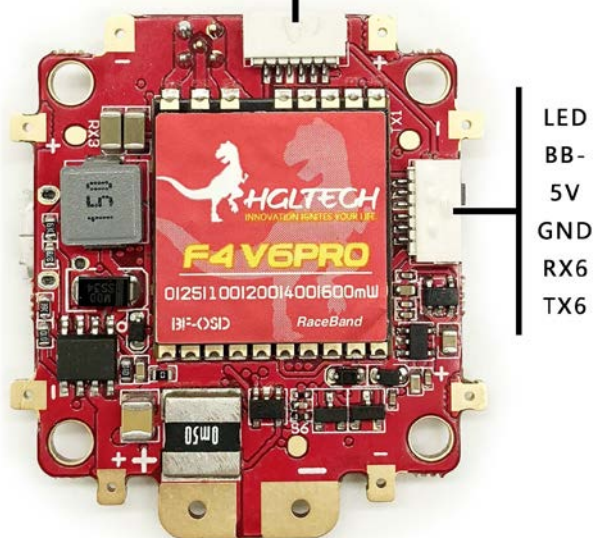Master：STM32F405 GRT6

Voltage：2-6S Lipo support

MAX Current：200A

5v bec：3A

Net weight:15.6g

Wiring Diagram

| Frequency table								
	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
A	5865	5845	5825	5805	5785	5765	5745	5725
b	5733	5752	5771	5790	5809	5828	5847	5866
E	5705	5685	5665	5645	5885	5905	5925	5945
F	5740	5760	5780	5800	5820	5840	5860	5880
r	5658	5695	5732	5769	5806	5843	5880	5917
L	5362	5399	5436	5473	5510	5547	5584	5621

FC firmware FLASH and Settings

FC firmware FLASH

1.Long Press BOOT buttons，connect USB，The system automatically install the driver
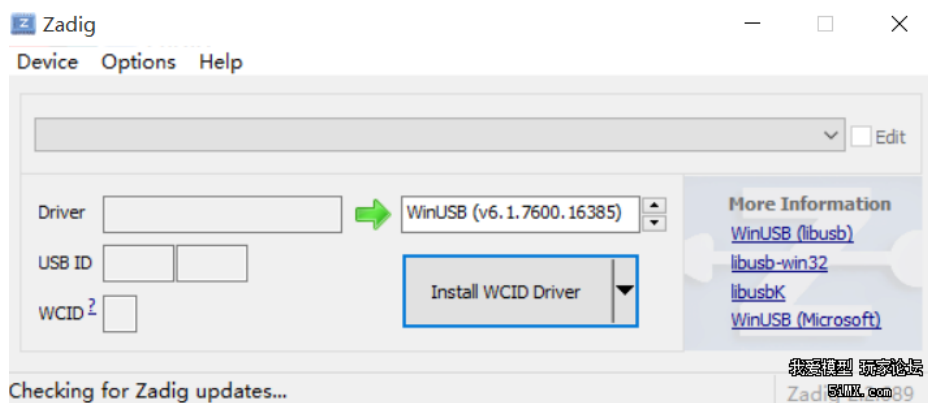

2.open betaflight configurator，enter DFU mode
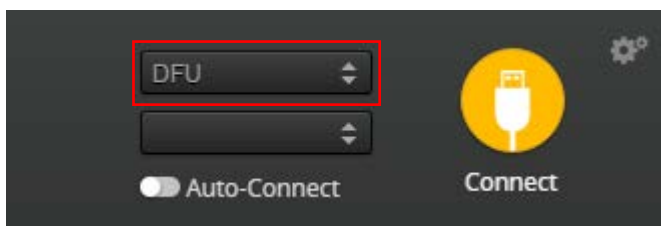
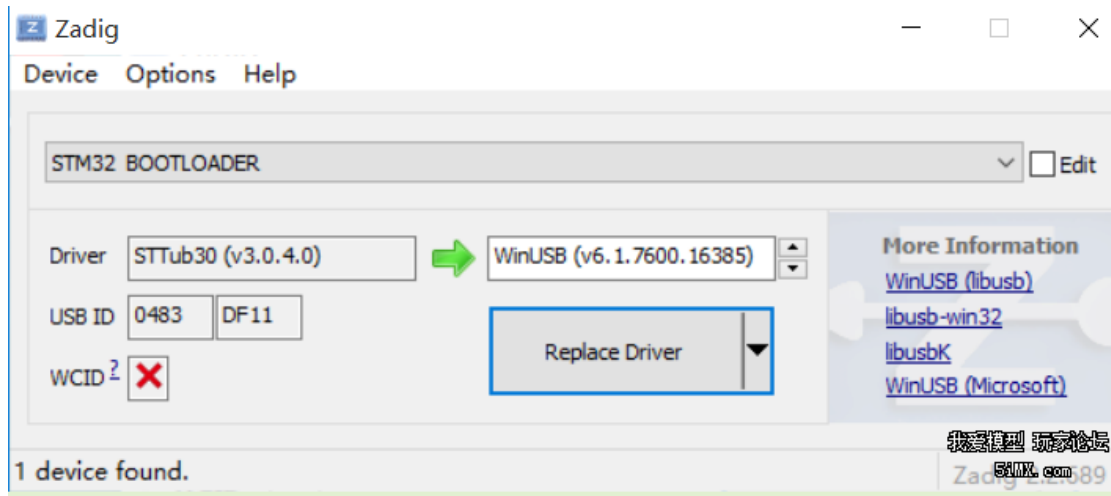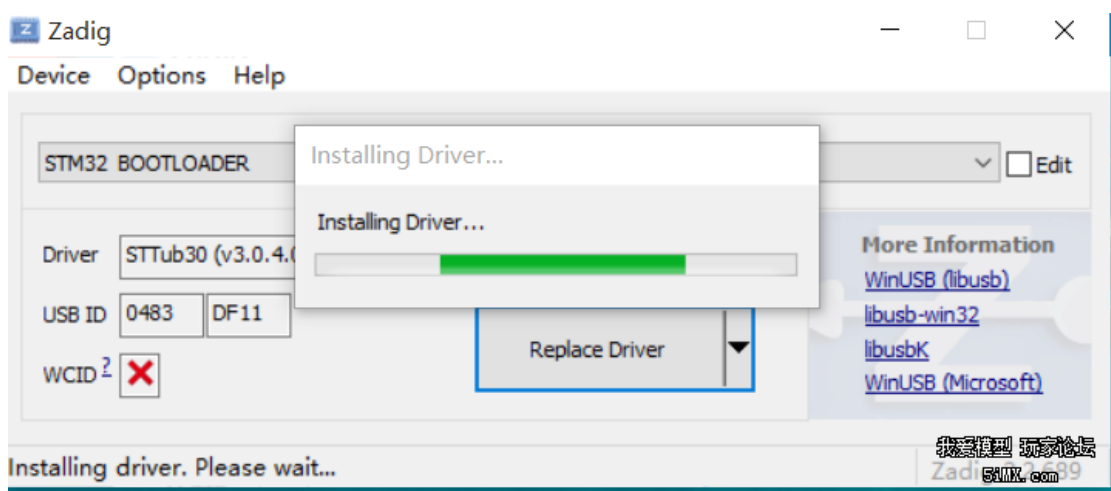Zadig software downloaded to a computer, it is a run file
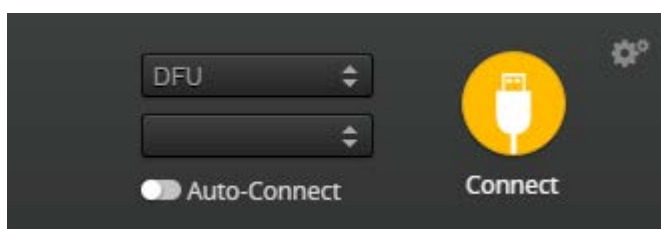

3.Double-click on the run

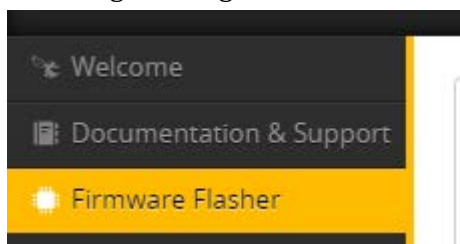4.Click the Options, select List All Devices after the diagram below

5.Click Replace Driver

At this point automatically to computer load driver.Now open betaflight tuning software, automatic loading good drive, betaflight software will display in the joint the diagram below：

6.betaflight configurator，select "Firmware Flasher"，

7.Don't open the Settings

8.click "Load Firmware[Local]" Select the firmware "betaflight_3.1.*-3.2-*_OMNIBUSF4.hex"（The firmware version according to the actual situation）

9.click "Flash Firmware"，progress bar "Programming:SUCCESSFUL" Finish!

10.Betaflight Automatically assigned port，click "Connect" Enter setup interface（Different computer COM）
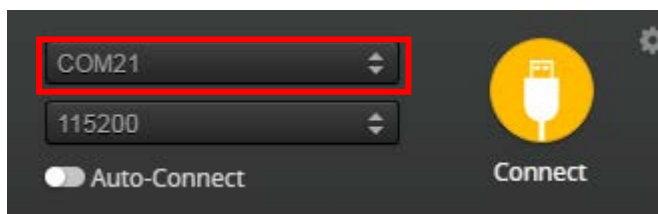
F4　Flight control parameter Settings

1、FC　horizontal　，The acceleration of calibration

2、2.4G sbus receiver:open UART1 RX, IRC TRAMP is UART3 TX, ESC telemetry is UART6 RX, then click "save and reboot"(Each set needs to be saved)

Note: click save after will jump to the startup screen, reconnect!

3.choice of receiver SBUS mode

4.Open the voltage current detection

Power & Battery

Battery

ESC Sensor ▼	Voltage Meter Source
None ▼	Current Meter Source
3.3 ⬍	Minimum Cell Voltage
4.3 ⬍	Maximum Cell Voltage
3.5 ⬍	Warning Cell Voltage
0 ⬍	Capacity (mAh)

Voltage Meter

ESC Combined	0 V
ESC Motor 1	0 V
ESC Motor 2	0 V
ESC Motor 3	0 V
ESC Motor 4	0 V

5.Open the ESC_SENSOR, osd, article LED lights set (choose) as required

Other Features

Note: Some of the features of the firmware are not shown in this list any more, because they have been moved to other places in the configurator.

| | INFLIGHT_ACC_CAL | In-flight level calibration | |
	SERVO_TILT	Servo gimbal	
	SOFTSERIAL	Enable CPU based serial ports	❓
	SONAR	Sonar	
	TELEMETRY	Telemetry output	
🟠	LED_STRIP	Multi-color RGB LED strip support	
	DISPLAY	OLED Screen Display	❓
🟠	BLACKBOX	Blackbox flight data recorder	❓
	CHANNEL_FORWARDING	Forward aux channels to servo outputs	
	TRANSPONDER	Race Transponder	❓
	AIRMODE	Permanently enable Airmode	
	SDCARD	SDCard support (for logging)	
🟠	OSD	On Screen Display	
	ESC_SENSOR	Use KISS ESC 24A telemetry as sensor	

After set up parameters on this page, save the Settings.

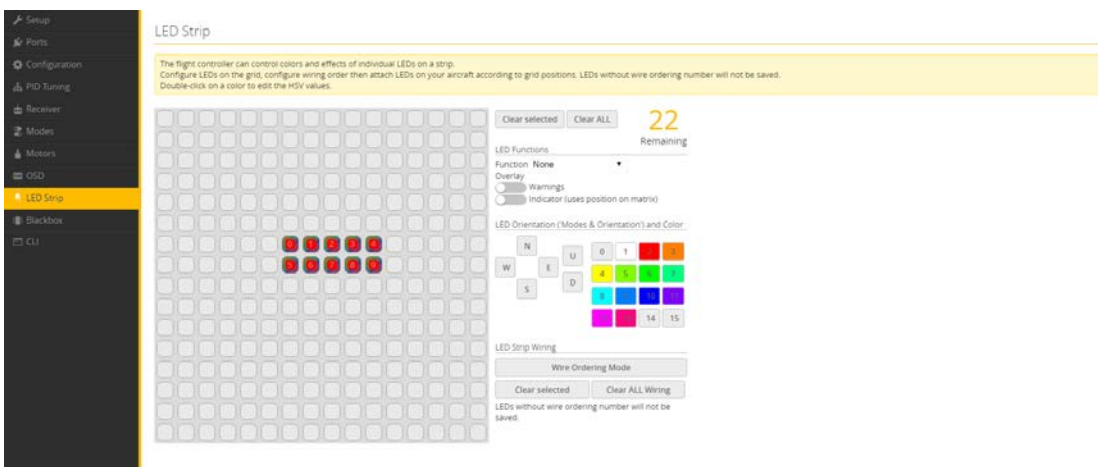## 6.set up the function of remote control switch across the channel (below are for reference only)

7.the OSD Settings, according to the need to choose, drag the OSD schematic diagram of the parameters can be adjusted.
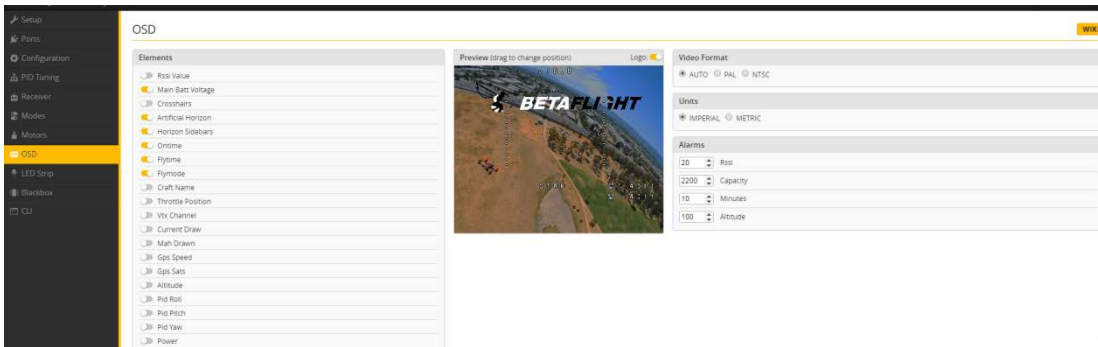
8.LED Strip configuration, set according to need

So far, flight control basic setup to finish.

Using The OSD

The XJB Micro F4 includes Betaflight OSD, which displays information like battery voltage and mAh consumed while you fly. In addition, the Betaflight OSD can be used to configure the quadcopter, making in-field adjustments and tuning more convenient.

<div align="center">

MODE2   MODE1

</div>
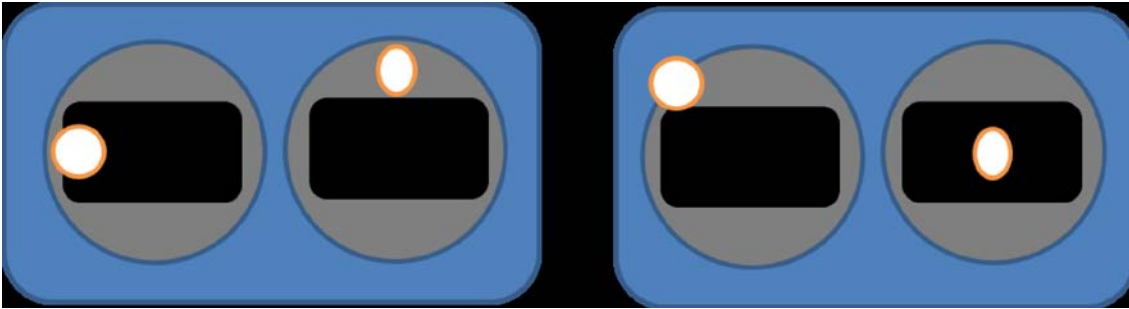
The graphics above show the stick command to bring up the OSD menu. The stick command is: throttle centered, yaw left, pitch forward. The exact stick command therefore depends on which mode your transmitter sticks are in.

In the OSD menu, use pitch up/down to move the cursor between menu items. When a menu option has a > symbol to the right of it, this indicates that it contains a sub-menu. Roll-right will enter the sub-menu. For example, in the screen to the right, moving the cursor to "Features" and then moving the roll stick to the right will enter the "Features" sub-menu.
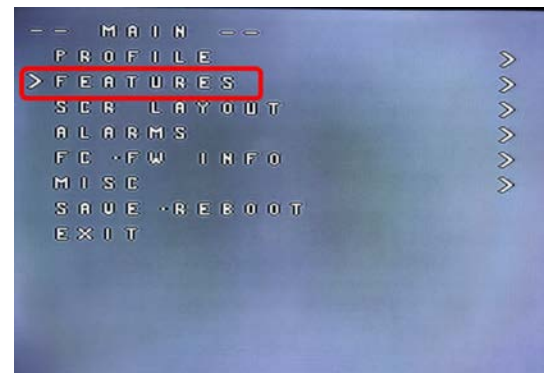
If you are using a video transmitter that supports remote configuration, enter the "Features" menu to configure the vTX. From there, enter either "VTX SA" if you are using SmartAudio (TBS Unify) or "VTX TR" if you are using IRC Tramp Telemetry.

To adjust PIDs, rates, and other tuning-related parameters, enter the "Profile" sub-menu.
In the "Scr Layout" sub-menu, you can move the OSD elements (like battery voltage, mAh, and so forth) around on the screen.
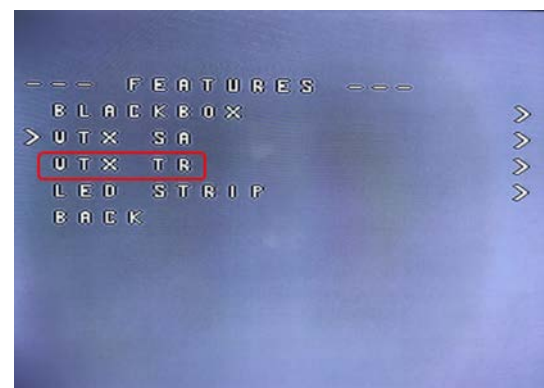
The "Alarms" sub-menu lets you control when the OSD will try to alert you that battery voltage is too low or mAh consumed is too high.

When a parameter can be modified, the parameter's current value will be shown on the right-hand side of the screen. In this case, roll left/right will adjust the parameter up and down.

The screen to the right shows the current vTX settings. From here, you can change the frequency band, channel, and power level of the video transmitter. After making the changes, move the cursor to "Set" and press roll-right to confirm the settings.
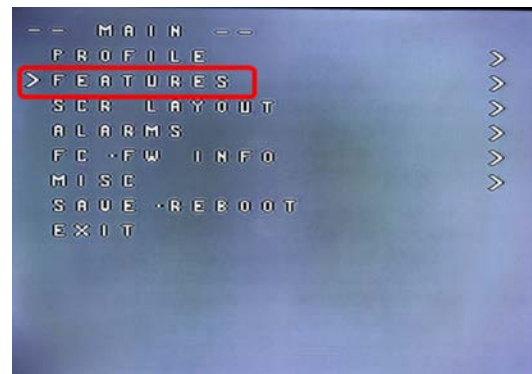
F4 FC test

- ◼ can connect the computer to download firmware & adjustable parameters

- ◼ good connection test, after testing all functions

- ➢ buzzer sound

- ➢ OSD display is normal

- ➢ Have a camera

- ➢ The remote control can be unlocked

- ◼ if motor rotation

- ➢ LED light