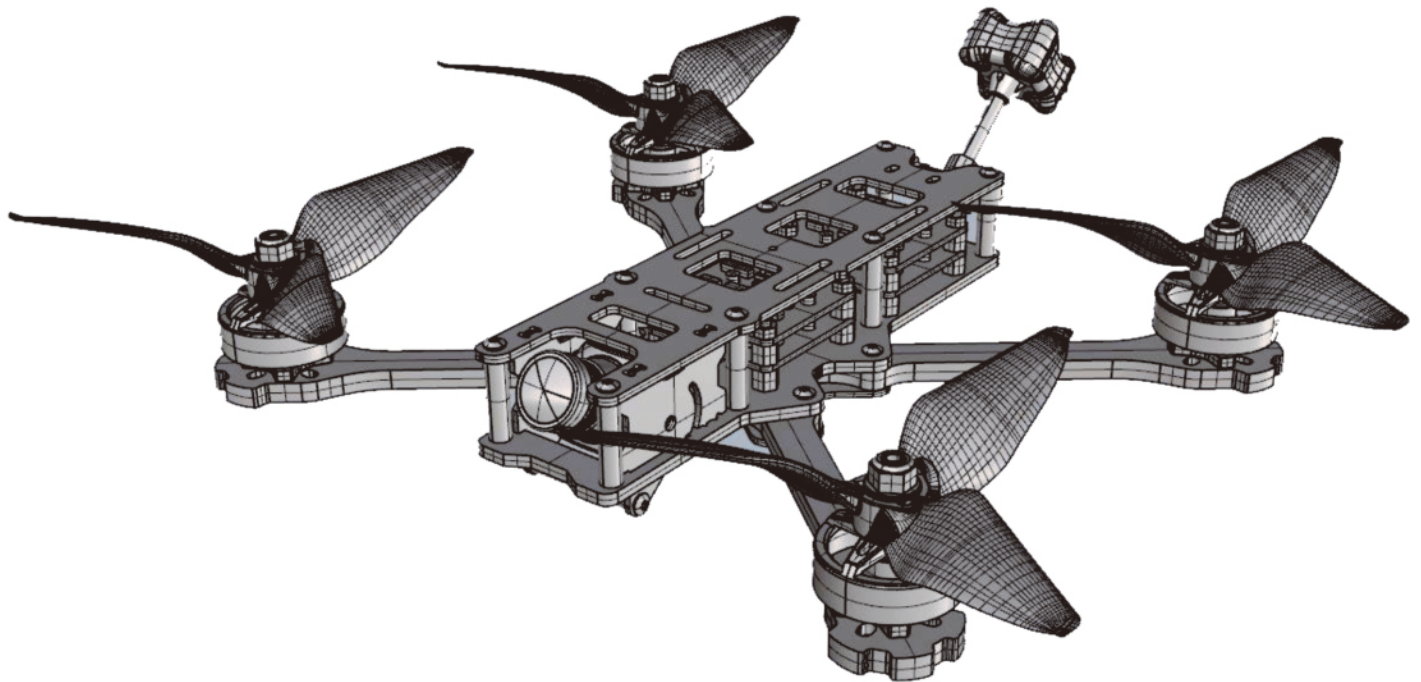


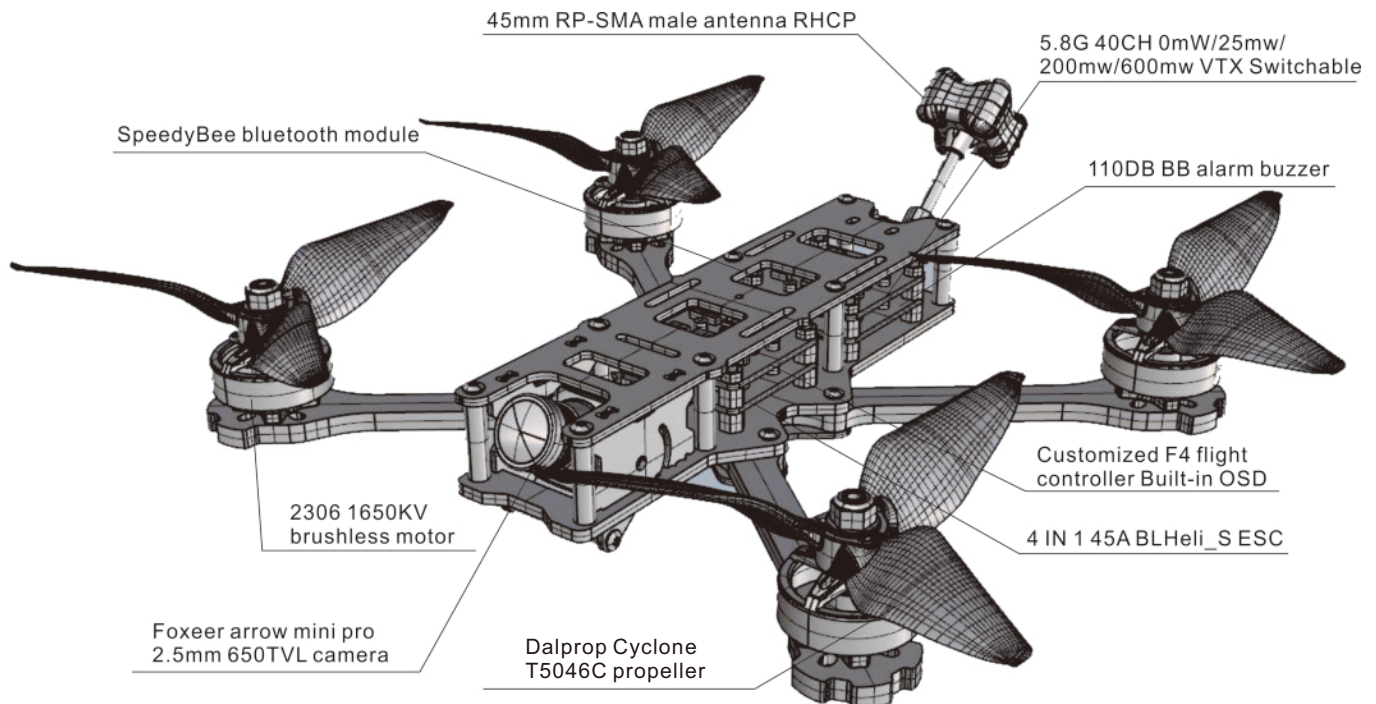
# WIZARD X220HV

## QUICK START GUIDE



## Package included:

- 1 x X220HV frame kit
- 2 x 2306 1650KV brushless motor CW
- 2 x 2306 1650KV brushless motor CCW
- 1 x 4 IN 1 45A BLHeli\_S ESC
- 1 x Customized F4 flight controller Built-in OSD
- 1 x Foxeer arrow mini pro 2.5mm 650TVL camera
- 1 x 5.8G 40CH 0mW/25mw/200mw/600mw VTX Switchable
- 1 x 110DB BB alarm buzzer
- 1 x SpeedyBee bluetooth module
- 1 x 45mm RP-SMA male antenna RHCP
- 2 x 200\*20mm battery strap
- 1 x 30° camera mount compatible with Runcam 3 3S Gopro session
- 2 x Dalprop cyclone T5046C transparent white CW
- 2 x Dalprop cyclone T5046C transparent white CCW
- 2 x Dalprop cyclone T5046C transparent purple CW
- 2 x Dalprop cyclone T5046C transparent purple CCW
- 10 x 2.5\*100mm nylon strap black



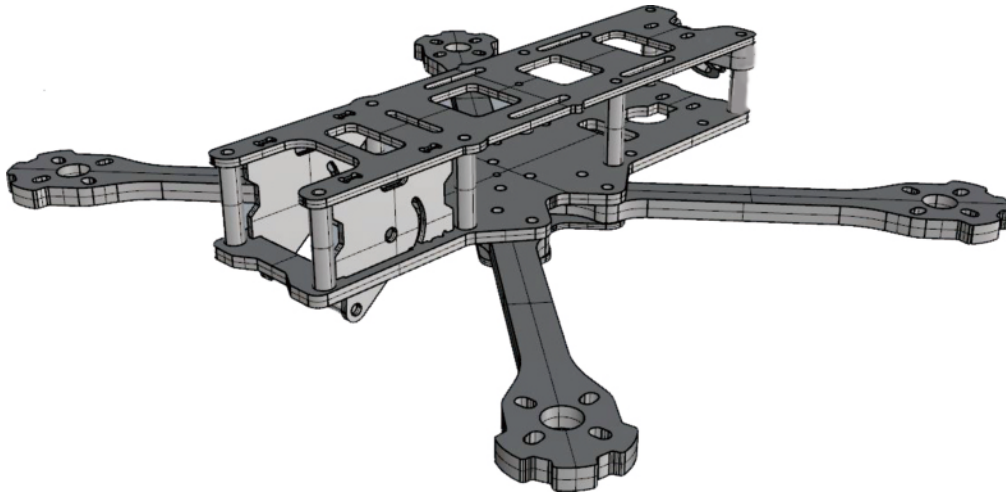
# Contents

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## 1.0 Frame kit

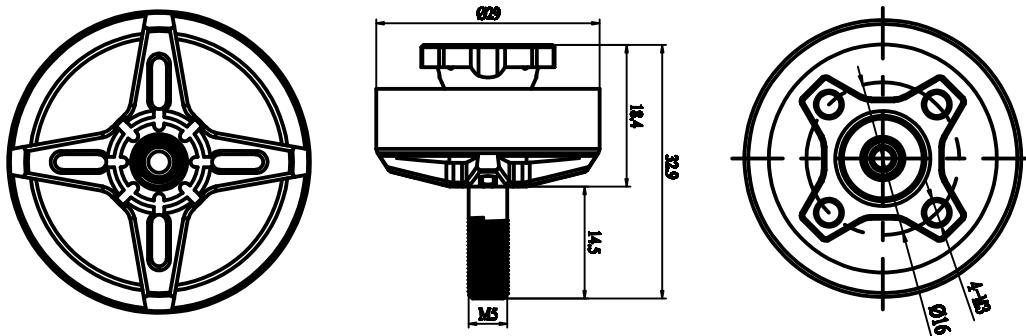
Wheel base: 220mm  
 Upper plate thickness: 2.0mm  
 Frame arm thickness: 5.0mm  
 Bottom plate thickness: 3.0mm  
 X plate thickness: 1.5mm  
 Camera side plate thickness: 1.5mm  
 Camera standoffs: M3\*28mm 1 PC  
 Frame standoffs: M3\*20mm 8 PCS



## 2.0 Motor

Motor KV: 1650 RPM/V  
 Idle current(Io/10V): 1.05A  
 Lipo cell: 3-6S  
 Weight: 35g  
 Max continuous current: 36A  
 Max continuous power: 860W  
 Max thrust: 2350g  
 Configu-ration: 12N/14P  
 Stator diameter: 23mm

Stator thickness: 6mm  
 Motor diameter: 29mm  
 Motor body length: 18.4mm  
 Overall shaft length: 32.9mm  
 Prop adapter shaft: M5  
 Bolt holes spacing: 16mm  
 Bolt thread: M3  
 Propeller: 5-6 inch



### 3.0 ESC

Integrated PDB

Working voltage: 2-6S Lipo

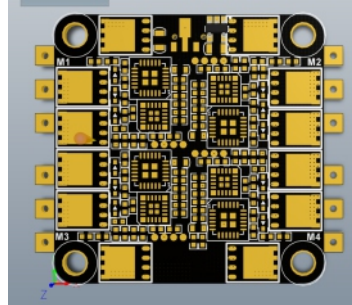
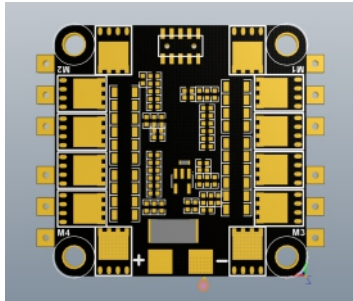
Continuous working current: 4\*45A

Peak current: 4\*50A (6S)

Main control chip: 48Mhz EFM8BB2

Firmware: BLHeli\_S Supports Dshot600

MOS: 5\*6



### 4.0 Flight controller

Main control chip: STM32F405

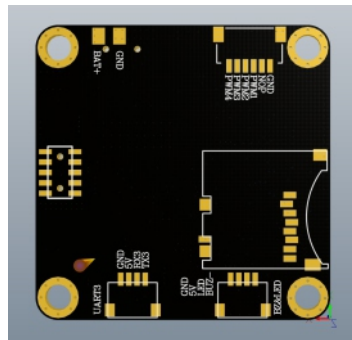
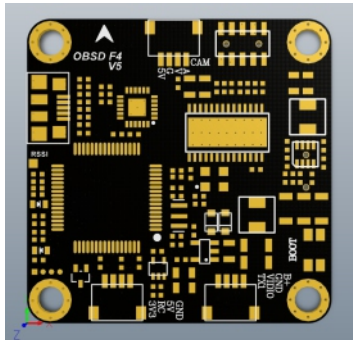
Sensor: MPU6000 6 axes

Power supply: 5V

Integrated OSD

LC filter on board

Supports BetaFlight / inva running firmware



### 5.0 Antenna

Brand name: Eachine

Item name: antenna

Quantity: 1 PC

Connctor: RP-SMA Male



## 6.0 Switchable VTX

Output power and transmission distance:  $\geq 0.5\text{km}@25\text{mW}$ ,  
 $\geq 1\text{km}$  to  $200\text{mW}$ ,  $\geq 2\text{km}$  to  $600\text{mW}$   
 Transmission power:  $0\text{mW}$  /  $25\text{mW}$  /  $200\text{mW}$  /  $600\text{mW}$   
 Full video format: NTSC / PAL  
 Input voltage and power dissipation:  $7\text{V} \sim 24\text{V}$ ,  $+12\text{V}$  /  
 $260\text{mA}$  @  $600\text{mW}$   
 Size:  $36*36*6\text{mm}$   
 Weight:  $\leq 7\text{g}$  (excluding antenna)  
 With output power self-check function.  
 Nixie tube SCAN: frequency point (1-8), frequency band (AE),  
 power (1-3, 0= $0\text{mw}$ , 1= $25\text{mw}$ , 2= $200\text{mw}$ , 3= $600\text{mw}$ )

## 7.0 Camera

Solution:  $1/3"$  Sony SUPER HAD II CCD + Nextchip 2040 DSP  
 Pixel: PAL:  $976(\text{H}) \times 494(\text{V})$   
 TV system: PAL  
 Resolution:  $600\text{TVL}(\text{color})$   $650\text{TVL}(\text{B\&W})$   
 Synchronization: internal  
 Min.illumination:  $0.01\text{Lux}$   
 WDR: support  
 OSD programming board: support  
 White Dot repair: support  
 DNR: 2D DNR  
 Camera title: support  
 Image adjustment: support  
 OSD: Edit name, power, flying time  
 Input power:  $5\text{-}40\text{V}$   
 Storage temperature:  $-40^{\circ}\text{C} \sim 60^{\circ}\text{C}$   
 Working temperature:  $-10^{\circ}\text{C} \sim 50^{\circ}\text{C}$   
 Power consumption:  $70\text{mA}$   
 Low voltage alarm: support  
 Preset mode: DEF, VIVID, SUNNY, CLOUDY, LED TR, USR1  
 Size:  $21.8 \times 21.8\text{mm}$   
 Weight:  $8.7\text{g}$ (excluding bracket)





## 8.0 SpeedyBee bluetooth module

Support Betaflight configurator

Speedybee App: iOS 10.0+; iPhone 4S, iPad3;

Androd 4.3+

Output power: 0dBm

Sensitivity: -94dBm

External interface: BROADCAST SWITCH, TX, RX,  
3-5V DC Input, GND

Transmission speed: Bidirectional 1K/S

Bluetooth protocol: Bluetooth Specification V4.0 BLE

Transmission distance: 30 meters

Frequency range: 2400MHz-2483.5MHz (2.4G ISM  
Band)

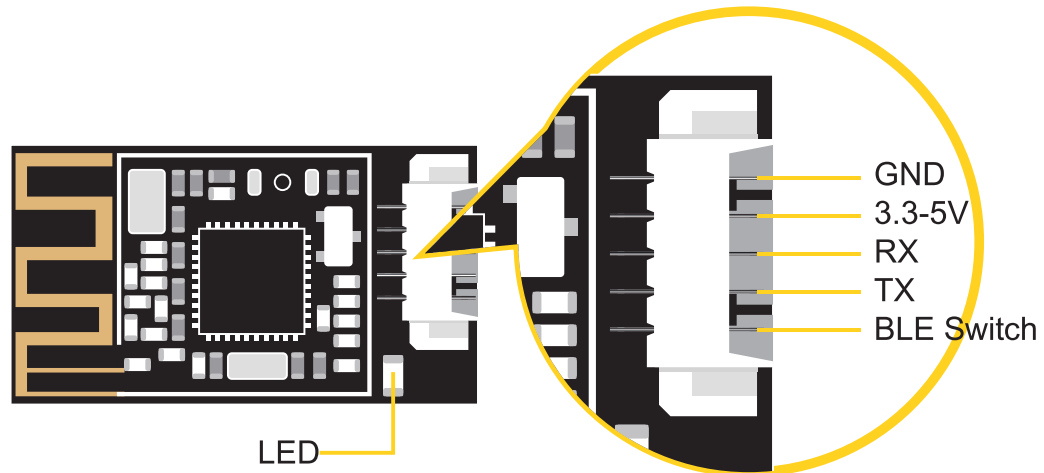
Baud rate: 2400, 4800, 9600, 14400, 19200(default),  
28800, 38400, 57600, 76800, 115200, 230400

Working voltage: 3.3V-5.0V

Working current: 8.3mA-10mA

Weight: 1.4g

Size: 27\*15\*4.5mm



LED: Blue and constantly on when being connected.

LED does not light means it is not connected.

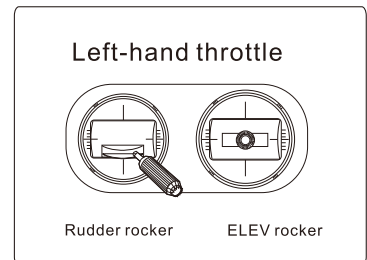
## 9.0 110DB BB alarm buzzer

Working voltage: 5V  
 Standby battery: lipo 4.2V 100mah  
 Loudness: 110DB  
 Size: 36 \* 36mm  
 Weight: 8g

## 10.0 Motor Unlock/lock

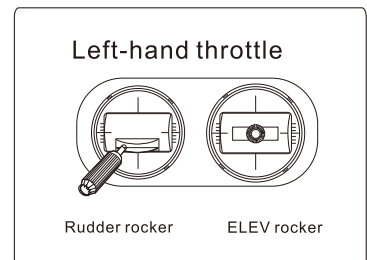
### Motor Unlock

Put the throttle rocker at the lowest point, move the rudder rocker to the right and keep it for more than 2 seconds. The blue state indicator is always on, that is unlock the motor.

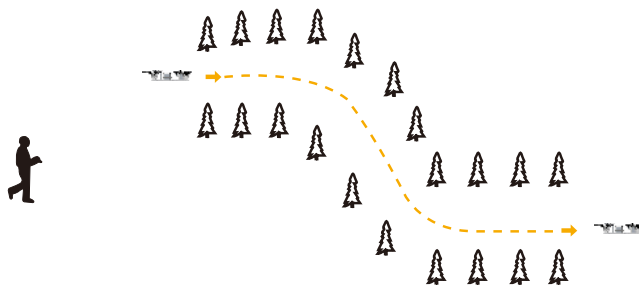


### Motor lock

Put the throttle rocker at the lowest point, move the rudder rocker to the leftmost side, and the red state indicator is always turned on to lock the motor. At this time, pushing the throttle rocker motor upward will not rotate.



## 11.0 Traversing flight



- 1). Flying is more suitable for experienced pilots.
- 2). During the flight, please keep the flight within the video receiving range (the actual range depends on the flight environment and weather conditions).
- 3). During flight, please avoid crowd, animals and High voltage wires and other obstacles