



Explore the new world!

FIREFLY X

High End Action camera with ips touch screen

- Ambarella H22S85
- 2.35-inch touch screen
- Gyro4.0 Image Stabilization
- WiF + BT 3.0 Remote control
- IP66 Waterproof and Dustproof
- SONY IMX377 12 Mega WDR CMOS
- 5G2M lens reduces distortion&purple edges

Ver1 .3

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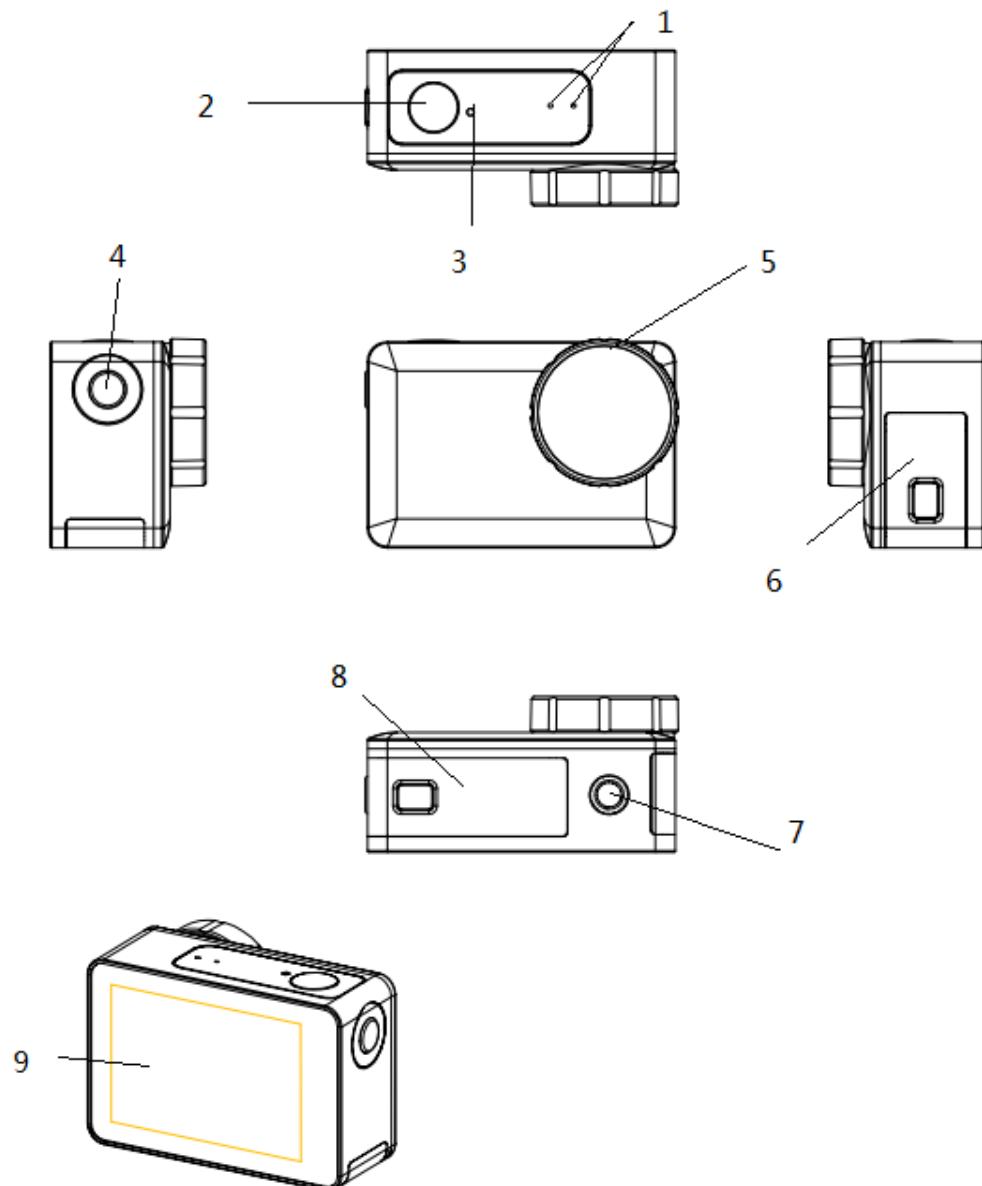
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Safety Guidelines:

Please read the instruction manual carefully before using the camera for the first time.

1. It's a high-precision product, do not drop or crash it.
2. Do not expose the camera to strong magnetic objects, such as magnets or electrical motors. Avoid exposing the product to strong radio waves. Strong magnetic fields may cause the product's breakdown or image/audio damage.
3. Never leave the product exposed to high temperatures and direct sunlight.
4. Please choose branded microSD that are suggested at this manual, to make sure the camera works properly.
5. In case of overheating, smoke, or unpleasant smell in the process of charging, unplug your device immediately to prevent fire hazard.
6. While charging, keep the product out of children's reach. Power cable may cause children accidental suffocation or electric shock.
7. Use original Firfly X's batteries, to make sure the camera works/charges properly.
8. Keep the device in cool, dry and dust-free places.
9. Please do not throw the product or its battery to the garbage, find a specific recycling point for it.

Features :



1. Microphone sound portal.
2. OK button.
3. LED.
4. Power button/Mode button.
5. Lens Cap
6. Port door.

7. 1/4 inch nut.
8. Battery door.
9. Touch Screen.

Performance and Specifications:

Specifications	Photo resolution	16M/14M/12M/8M/5M/3M
	AV output format	PAL/NTSC
	USB Port	
	Kind of MicroSD card supported	U3(Note:Low speed sd card will cause unstable)
	Maximum size of MicroSD card supported	128G
	Wi-Fi +BT 3.0 remote control	YES
	LCD screen size	2.35 inch IPS 320*240 with TP
Specifications	Camera size	67.5×45.5×34.5 MM
	Weight	123g
	Battery Capacity (Battery is detachable)	1200mAH, 3.85V
	Battery life	About 1hours (25°C enviroment,1080P/60FPS)
	Time to complete charging	About 3 hours (5V 1.5A power supply, and power off while charging)
	Compressed format	H.264/H.265
	Video/photo format	*.MP4 / *.JPG

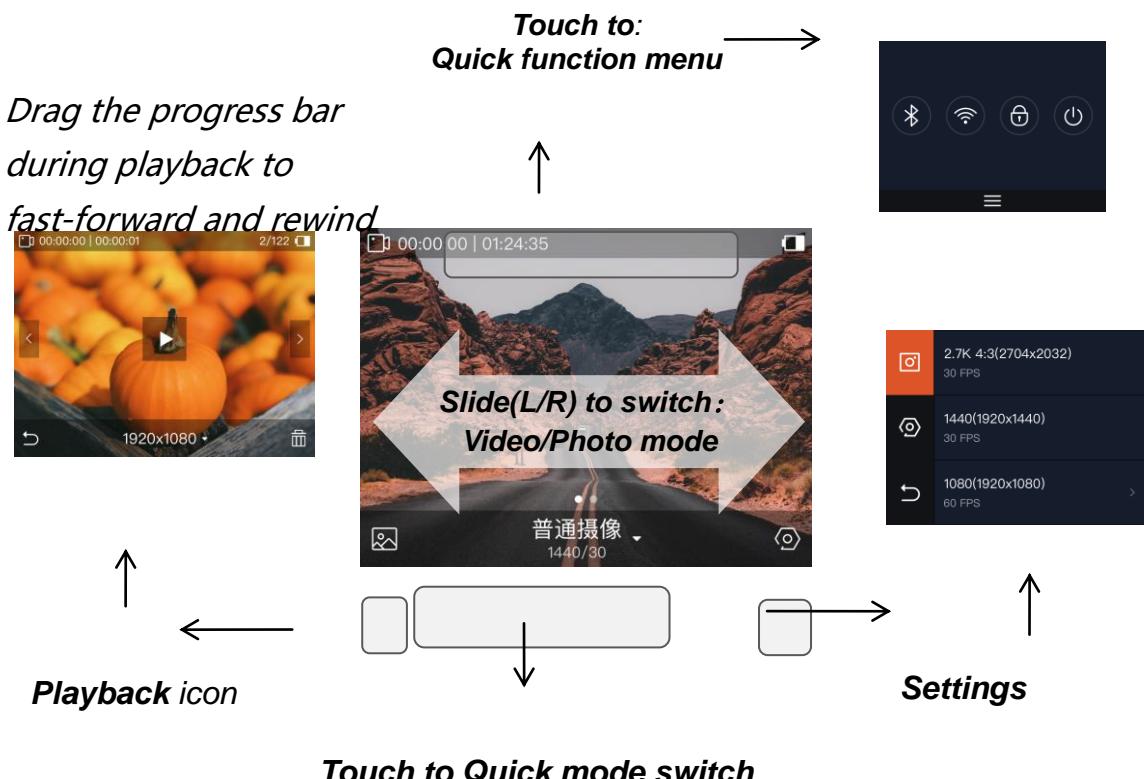
Optical Parameter- Wide angle version	Diaphragm	F/2.8 , 5G2M lens
	Angle	Diagonal 150 degrees
Electric Parameter	Working Voltage	5V
	Power supply	1.5A

Button Functions

Name	Functions	Descriptions
Power/Mode Button	Turn on/off camera; select modes	Press once, camera ON; press for 3 seconds, camera OFF; press to switch photo /video mode.
OK Button	start/stop recording	Press 2 seconds to enter the 6-icons interface <i>Press 2 seconds to unlock.</i>

Video settings:

In video preview mode, touch “setting icon” will enter menu:



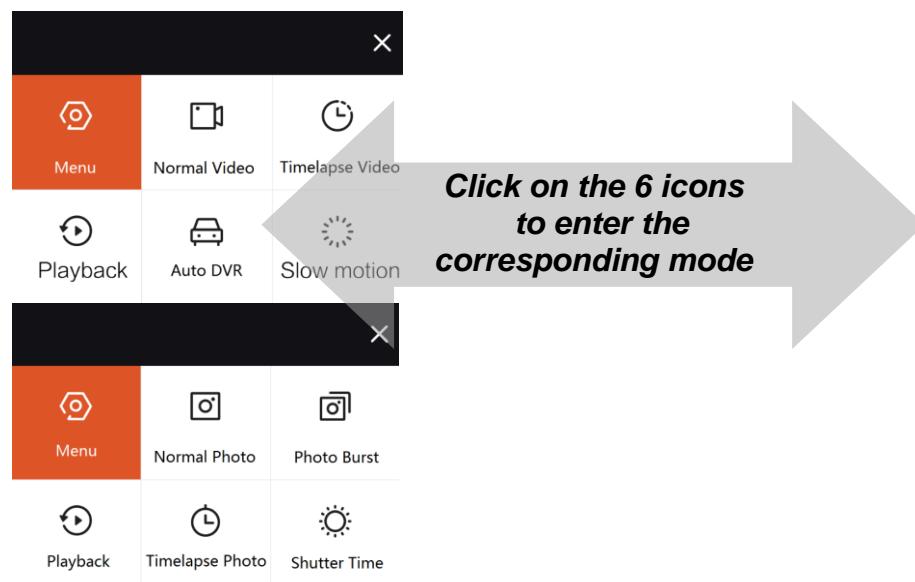
Press and hold below

-

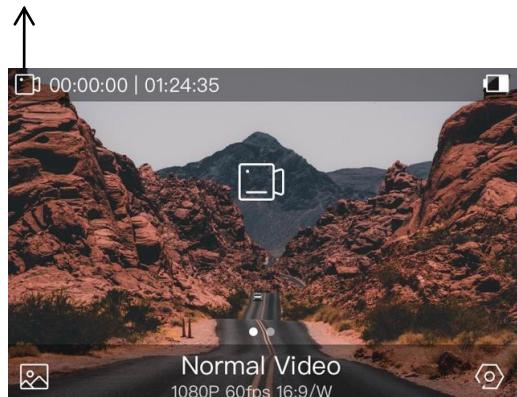
the menu options to will

-

jump to the last option quickly



Click on the recording icon to taking a start/stop the recording.



Click on the photo icon to photo.



In preview mode, a quick menu pops up by swiping the screen up: EV, ISO, Shutter Time, and you can manually adjust the values by swiping up and down the scale bar.

Menu: Touch to enter setting menu.

Normal Video: Touch to enter normal video mode.

Timelapse Video: Touch to enter time-laps mode. To adjust time-lapse please refer to "Timelapse Video " menu.

Playback: Touch to enter Playback mode.

Auto DVR: Touch to enter Car mode. In Car mode, Auto DVR and Loop recording will be turned ON.

Slow Motion: Touch to enter Slow motion mode. In this mode, it will record videos in slow motion.

Normal Photo: Touch to enter normal photo mode.

Photo Busrt: Touch to enter Burst photo mode. To adjust it, please refer to "Photo Burst"

Timelapse Photo: Touch to enter photo lapse mode. To adjust time-lapse please refer to "Timelapse Photo " menu.

Shutter Time: Touch to enter Long exposure mode. To adjust Shutter Time please refer to "Shutter Time" menu. (**Use this mode at night**).

Resolution: select from 4K 24/30/60fps, 4K Ultra 24/30fps , 2.7K 24/30/60fps, 2.7K Ultra 24/30/60fps, 2.5K 24/30/60fps, 1080P 24/30/60/120fps, 1080P Ultra 24/30/60fps, 720P 24/30/60/120/240fps ect.

Video Encoding: H.264/H.265.

Video Quality: Super Fine/Fine/Normal.

FOV: Wide/Medium/Narrow,view angle. Not available on Ultra mode.

Gyro 4.0: Off/On. Not available on 4K/60fps and 4K Ultra 24/30fps.

EIS 3.2 Calib: Off/On. Electronic stabilization calibration.

Motion detect:Off /Low/Medium/High. When turn this function ON and press OK button, it will record video when motion detected.

Dual files: Off/On. When turn on, it will save a low resolution file when recording. Small file is easy to share via WiFi. **We suggest to turn this function on while using APP to download/playback videos.**

Loop record: Of/1min/2min/3min/5min. If cycle recording mode is selected, the video will be cut into setting-minute segments. The earliest files will be covered when the TF card is full. (This mode is suggested to be used in vehicle monitoring.)

Video stamp: Off/Date/Time/Date&Time. this option allows you to stamp the date/time on the video.

Logo Watermark: Off/On. this option allows you to stamp the cool logo mark on the video.

Delay Off : Off/5Sec/10Sec/30Sec/60Sec. Available on Auto DVR mode.

Microphone Volume: Off,/50%/60%/70%/80%/90%/100%.

EV Value: -2.0,-1.7,-1.3,-1.0,-0.7,-0.3,0.0,+0.3,+0.7,+1.0,+1.3,+1.7,+2.0.

ISO: 100/200/400/800/1600/3200/6400/MAX200/MAX400/MAX800/MAX1600/MAX3200/MAX6400. Selecting " MAX " means that ISO is automatically selected, but not more than the MAX value.

Shutter Time : Auto, 1/30, 1/60, 1/120, 1/240, 1/480, 1/960.

Sharpness : Strong/ Normal /Soft.

White Balance: Auto White Balance.

Auto/Incandescent/D4000/D5000/Sunny/Cloudy/D9000,D10000/Fluorescent/Deving Mode.

Scene Mode :

Normal/Night/Sports/Landscape/Portrait/Sunset/Sand&Snow/Fire Work/Back Light/Blue Sky/Dynamic Light/Beach/Indoor.

Color : Normal/Painting/Sepia/Negative/B&W/Hawkeye/70Film/Popart.

Metering: Center/Multi/Soft. **Note: different meter ways will make the footage brightness different.**

Timelapse Video : 0.1Sec/0.2Sec/1Sec/2Sec/5Sec/10Sec/30Sec/60Sec.
Note: this function will make videos look like fast forward. **Timelapse Video option is optional only in slow motion mode.**

Auto Low light: Of/On. When turn this function On, camera will drop the **frame rates** to increase the video' s brightness. When this function turn ON, will save power consumption. **This option only appears when the Gyro 4.0 option is off and the ISO is greater than MAX100.**

Flame Rate : Frame rate is optional only in slow motion mode.

Photo settings:

Image size: 16M/ 14M/ 12M/ 8M/ 5M/ 3M (1M=1Mega pixels) .

Photo Quality: Super Fine/ Fine/ Normal.

Self Timer: Off/ 3S/ 5S/ 10S/ 30/ 60S.

Shutter Time:

Auto, 1/1000Sec, 1/500Sec, 1/250Sec, 1/125Sec, 1/60Sec, 1/30Sec, 1/15Sec, 1/8Sec, 1/4Sec, 1/2Sec, 1Sec, 2Sec, 5Sec, 10Sec, 30Sec, 60Sec.

Note:If you use long exposure mode at day time, photo will be over exposure.

Photo Stamp: Off/Date/Time/ Date&Time. When turn this function ON, you could stamp the date/ time on photos.

Logo Watermark: Off/On. this option allows you to stamp the cool logo mark on the photo.

Raw photo: Off / On, when turn on, it will save a raw photo.

EV Value: -2.0, -1.7, -1.3, -1.0, -0.7, -0.3, 0.0, +0.3, +0.7, +1.0, +1.3, +1.7, +2.0.

ISO: Auto/ 100/ 200/ 400/ 800/ 1600/ 3200/ 6400.

Sharpness: Strong/ Normal/ Soft.

White Balance : Auto/ Incandescent/ D4000/ D5000/ Sunny/ Cloudy/ D9000/ D10000/ Fluorescent/ Diving Mode.

Scene Mode :

Normal/Night/Sports/Landscape/Portrait/Sunset/Sand&Snow/Fire Work/Back Light/Blue Sky/Dynamic Light/Beach/Indoor.

Color : Normal/Painting/Sepia/Negative/B&W/Hawkeye/70Film/Popart.

Metering : Center/Multi/Spot. **Note: different meter ways will make the footage brightness different.**

Photo Burst : 3 Pcs/Second, 5Pcs/Second, 10Pcs/Second. (Photo Burst mode only)

Timelapse Photo : 1S/ 2S/ 5S/ 10S/ 30S/ 60S. (Timelapse Photo mode only)

System Setup settings:

Distortion Correct : Off /On. Not available on Ultra mode.

Image Rotate : On/Off. Image will rotate 180 degrees.

Digital Zoom : On/Off. Available When **Gyro 4.0** turn Off.

Quick Capture : Off /On. ON: It will capture videos when power on.

Grid Display : Off /On. On:It will display the grid on the screen.

TV Mode : NTSC/PAL. PAL, frame rate will be 25/50/100/200; NTSC, frame rate will be 30/60/120/240.

Auto shutdown : Off/3Min/5Min/10Min. When there is no operations, the machine will auto shutdown.

Screen Off : Off/10S/30S/1Min/2Min/3Min,5Min/10Min. When there is no operations,will power off the screen.

LCD Brightness: 25% /50% 75% /100%. Set LCD brightness, when set it low, the power consumption will be saved.

Light Frequency: Auto, 50HZ, 60HZ.

Status LED : Off/On.Turn ON/OFF status LED on the machine.

Beep : Off/On. Turn ON/OFF beep voice on the machine.

WiFi : ON/OFF. Turn Wifi ON/OFF.Turn Off WiFi, the power consumption will be saved.

WiFi SSID. You can change WiFi name.

WiFi Password. You could change WiFi passwords here.

Bluetooth auto-start: ON/OFF. When turn off, boot up will be faster. Its suggested to turn it off to make boot up faster.

Bluetooth Pair.

How to pair BT remote controller: Set this menu ON, the machine will keep searching BT remote controller. Press any key of the remote controller, and the controller' s light will turn on. Keep pressing any key of the remote controller until searching function finished and they will paired. Note: When Camera power ON , it will keep searching BT remote controller for 20 seconds(*If BT auto start is turned ON*), if you keep pressing controller' s key (about 5 times), they will be paired automatically. Bluetooth remote controller is not in stander package.

Date&Time : Set the date & time of the machine, or you could update date time with the APP thought WiFi.

Language: English, Chinese, Russian...total of 15 languages.

Format. Format the MicroSD card.

Default Setting. Set to default settings. **Note: if the camera has any problems, you could use this function.**

Version. Check version number here and could update firmware here.

How to update firmware:

1.
 - A. Use Firefly APP to update firmware.
2.
 - a. Delete all the files in MicroSD card , and then copy update file to MicroSD card("Firefly_X_FWUPDATE_V5.bin" you could download it on our website: www.hawkeyefpv.com.cn)
 - b. Put MicroSD card into camera and power on.
 - c. Switch to system menu: Version.
 - d. Press OK button to check the update firmware, if detected firmware is right, select "yes" to update.

- e. Once confirmed, camera will update automatically.
- f. It will take 1 minutes to update. When update finish, it will power on.
- g. Delete firmware update files.

Wi-Fi :

Please check our website(www.hawkeyefpv.com.cn) or the QR code(below) to find our APP.

Please search:

Apple Store: **Firefly Cam**

Google Play: **Hawkeye Firefly**

You can use a Smart phone/tablet to view or take photos and videos via Wi-Fi connection.

1. Download and install app from the app store on your smart phone/tablet, or scan the QR code behind.
2. Turn camera' s Wi-Fi on.
3. In your smart phone' s or tablet' s Wi-Fi network settings, connect to the camera' s Wi-Fi network named "FIREFLY_xxxx" , enter the password. Default password is "12345678" .Or directly with the sweep function in the phone camera to sweep the camera's WIFI QR code directly to connect.
4. Open the FIREFLY app on your smart phone/tablet. You will now be able to control the camera with your smart phone/tablet plus view, playback and share selected content.

Battery Charging:

Connect the camera to a computer or phone charger using the included USB cable. Use 1.5A charger, and turn off the camera when charging will increase the charging rate(**Press and hold Mode key for 3 seconds could shutdown the camera**). The Charging Status Light it will turn OFF when the battery is fully charged.

Transferring Files:

1. Connect the camera to a computer via the included USB cable, and then turn on the camera.
2. Double click "My Computer" and locate "Removable Disk" . Enter "Removable Disk" and you will find all photo and video files in AMBA folder.

External Microphone:

Please buy our external microphone for FIREFLY X. When plug in the microphone, the camera will Beep and the microphone works.

Trouble shooting:

1. First of all if the camera has any problems: set it to default settings first (refer to ***System Setup settings***).

2.if the video quality is not satisfied or if the camera have any problems: try to set it to default settings first (refer to :***System Setup settings***).

3. Videos are not smooth : try to set it to default settings first (refer to :***System Setup settings***)

- a. Set the video resolution to : *1080P 60FPS*
- b. Set Gyro : *ON*
- c. Change a player(Quicktime player).

4.Battery endurance time is not enough: a.set LCD Brightness to Low; b.turn off the camera when charging(**Press and hold Mode key for 3 seconds could shutdown the camera**)c.Set to Photo mode when standby.d.Auto low light set ON. d.Turn WiFi OFF.

5.Charging time too long: when charging, press and hold Mode key for 3 seconds to turn the machine power off.

6. Video and sounds are no sync: A. copy the video to computer. B. Change a player(Quicktime).

7. Can't record/Camera unstable/record and then stop: A. Make sure card speed is U3. B. Format MiroSD card(One FIREFLY) once. **Suggest MicroSD cards: Sandisk Extreme U3, Sandisk Extreme Pro U3, Sandisk Extreme PLUS U3, Lexar 1000x U3, SONY SR-64X U3**

8. Machine is heat. a. Set to Photo Mode when standby. b. take it out of the waterproof case. c. Not Use it in a sealed environment

9. Camera no response. Take battery off and assemble again.

10.How to use BT remote controller: please refer to Bluetooth pair. **Note:**
When Camera power ON , it will keep searching BT remote controller for 20 seconds(If bluetooth auto start is turn ON), if you keep pressing controller' s key (about 5 times), they will be paired automatically.

11.WiFi playback speed is slow. When you want to use WiFi to playback videos, we suggest to turn “Dual Files” ON. When this function is turned ON, it will save a low resolution file. The files named “xxxxB” , we call it B file. When playback via WiFi, play the B file will be much faster.

12.Photos over exposure: Change Metering: Center,Multi,Spot.

FCC STATEMENT:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the

following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Please download APP from:

Apple Store: **Firefly Cam**

Google Play: **Hawkeye Firefly**

iOS:



Android:

