

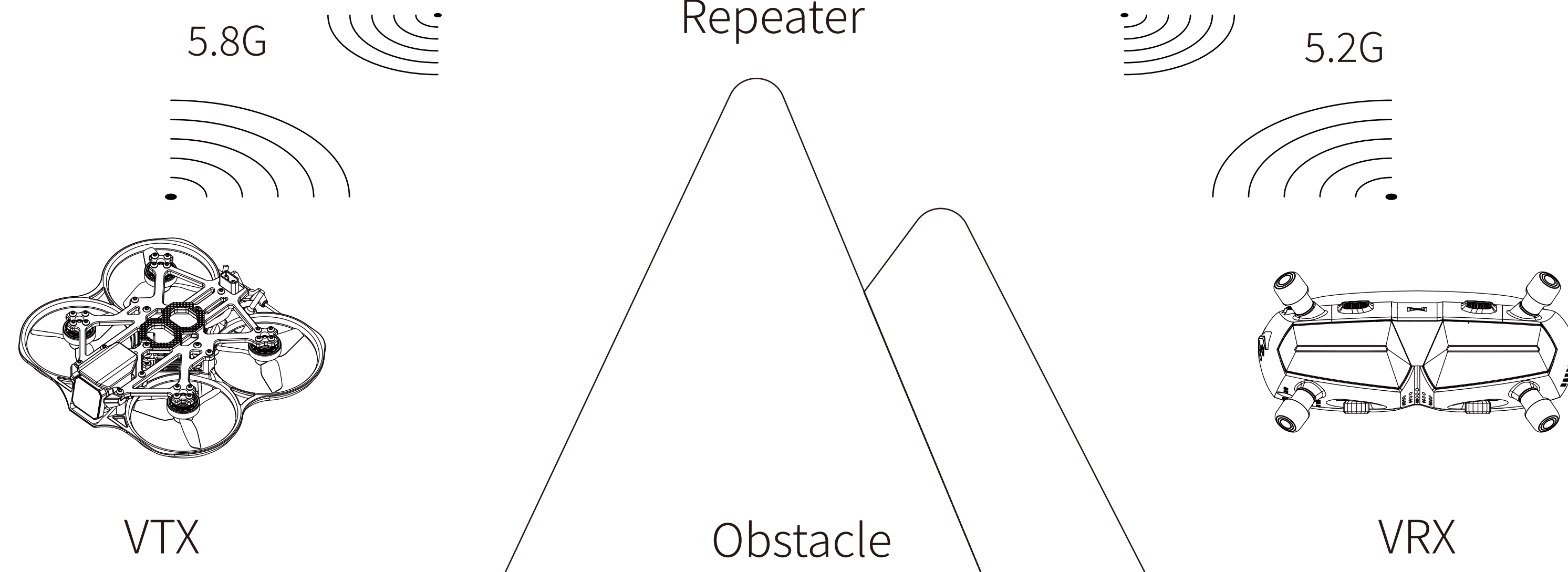
AVATAR REPEATER

Quick Start Guide

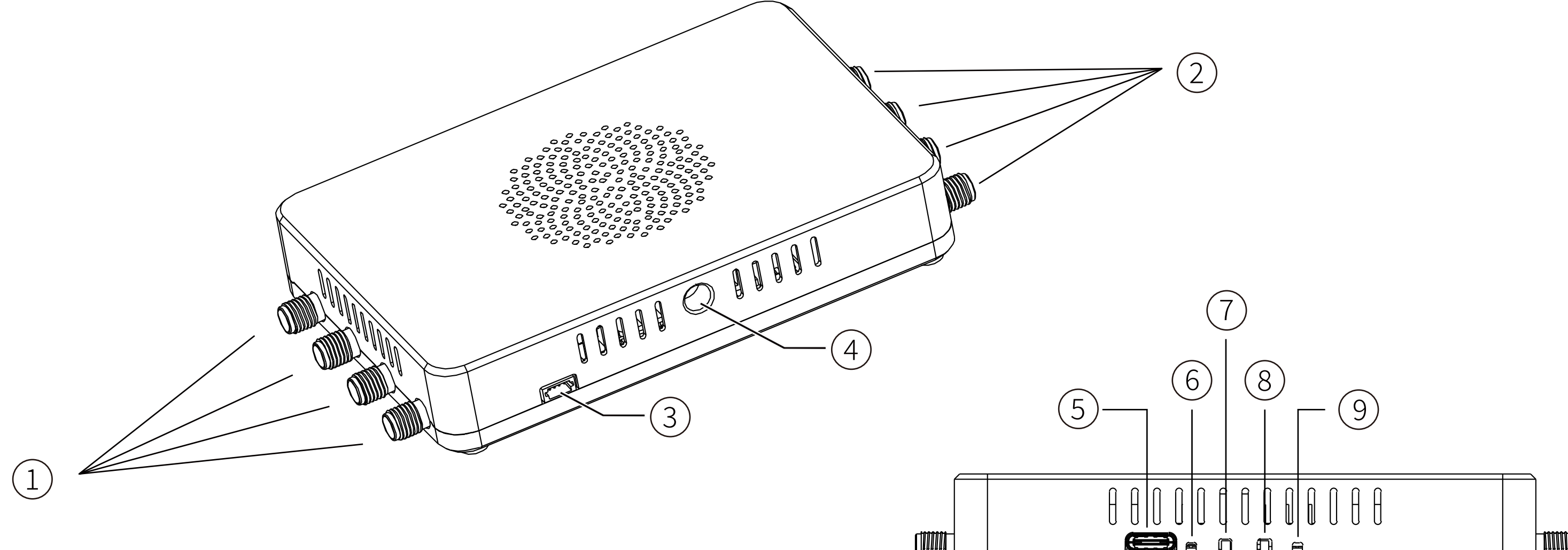
V1.0

Introduction

This product is suitable for Walksnail Avatar HD system and needs to be used with Avatar series VRX and VTX products. It can realize the relay function of VRX and VTX wireless signals and is suitable for scenes with severe obstruction. Because VRX devices and repeaters use 5.2GHz communication frequency, VRX needs to replace 5.15GHz–5.30GHz LHCP antenna. The term “VTX” described in the document refers to Avatar V2, Avatar GT, Avatar 1S and other series of image transmission camera products, and the term “VRX” described in the document refers to Avatar Goggles X, Avatar VRX and other display products.

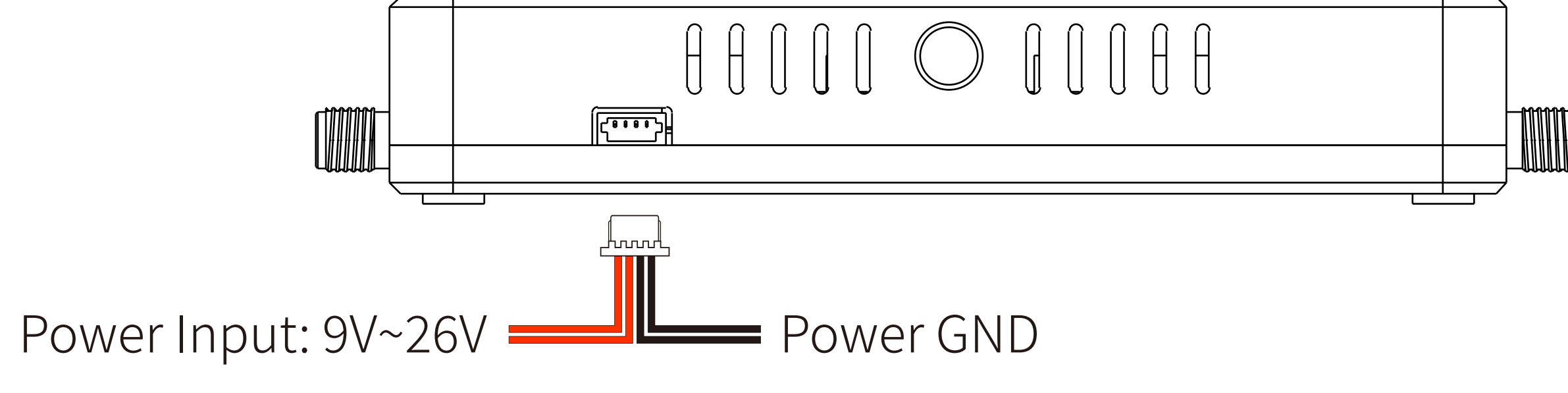


Diagram



- | | |
|---|---|
| 1、VRX communication antenna port (5.2GHz) | 5、USB (Upgrade port) |
| 2、VTX communication antenna port (5.8GHz) | 6、VTX LED |
| 3、Power input 9V-26V | 7、VTX Binding Key (Press and hold for 8 seconds to upgrade) |
| 4、1/4 thread | 8、VRX Binding Key |
| | 9、VRX LED |

Connection



- ⚠ Power consumption: 12V@1.5A
- Do not use 2S batteries.

How to enable relay mode in VRX

Please update Avatar VRX and Avatar VTX devices to V38.43.9 or above before use. Because VRX devices and repeaters use 5.15GHz–5.30GHz communication frequency, the original antenna cannot be used. VRX devices need to replace third-party 5.15GHz–5.30GHz LHCP antennas.

1. Create a .txt file named "Avatar_std" in the root directory of the VRX TF card, and fill in "relay=on" in the file content;

2. Insert the TF into the VRX device and power it on, and it will automatically switch to Relay mode after powering on.

Set the Avatar_std.txt file content to on or off:

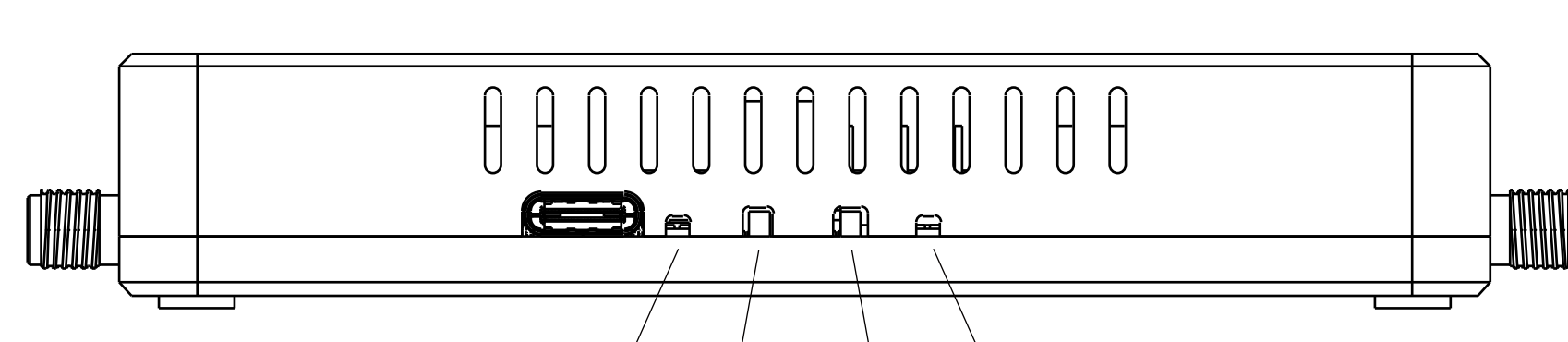
“relay=on” means: turn on the Relay mode and add the Relay option.

“relay=off” means: turn off the Relay mode and cancel the Relay option.

Note: If VRX performs Reset all, you need to re-enable Relay mode.

How to Bind

This section describes how to pair a repeater with Avatar VRX and Avatar VTX. The prerequisite is to make sure that all devices have the same version and the VRX has enabled Relay mode.



1. Power on VRX, repeater, and VTX.
2. Press the VRX binding button, the buzzer emits a beep...beep...beep... prompt tone, the repeater presses the BIND VRX button (as shown in Figure ③), and the BIND VRX LED turns red (as shown in Figure ④).
3. After the binding is successful, the VRX buzzer stops, and the repeater BIND VRX LED turns green.
4. Press the VTX binding button, the indicator light turns red, the repeater presses the BIND VTX button (as shown in Figure ①), and the BIND VTX LED turns red (as shown in Figure ②).
5. After the binding is successful, the VTX indicator light turns green, and the repeater BIND VTX LED turns green.
6. Binding is completed, and the VRX displays the image.

How to Upgrade

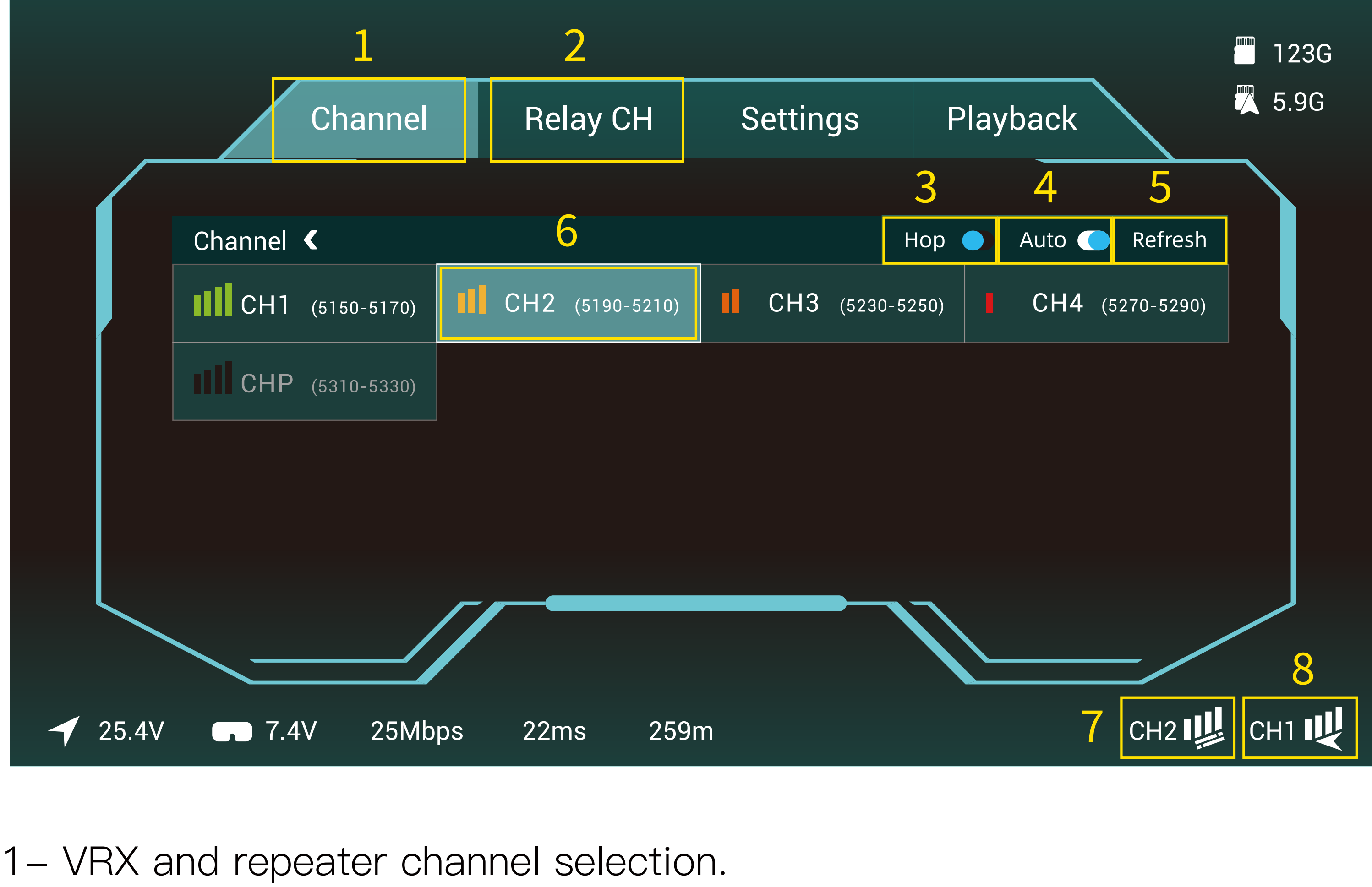
1. Please go to www.caddxfpv.com to download the latest firmware upgrade. The repeater firmware name is "Avatar_Relay_X.X.X.img" and the file suffix is ".img".
2. Power on the repeater. Please make sure that the power is sufficient. Do not disconnect the power during the upgrade process. Connect the USB port (Diagram ⑤) to the PC.
3. Press and hold the BIND VTX frequency binding key (Diagram ⑦) for 8 seconds. The indicator light turns red and green and flashes alternately. The PC recognizes the repeater USB flash drive.
4. Copy the "Avatar_Relay_X.X.X.img" upgrade firmware to the repeater USB flash drive (some PC software recognizes it as a compressed package and does not need to be decompressed)
5. After the copy is completed, unplug the USB cable directly (do not disconnect the power). At this time, the upgrade will automatically start. The indicator light will turn red and flash. After the automatic restart, the indicator light will turn green and the upgrade is complete.

Solution to the indicator light not entering the upgrade state:

If the indicator light turns yellow and flashes quickly after unplugging the USB cable, please power on again to upgrade, check whether the firmware version is correct, and try to copy the firmware again.

VRX Menu

Channel Settings-1



1– VRX and repeater channel selection.

2– VTX and repeater channel selection.

3– Automatic frequency hopping switch, automatically selects the channel with less interference when turned on.

4– The “Auto” switch automatically refreshes the signal interference status of all channels.

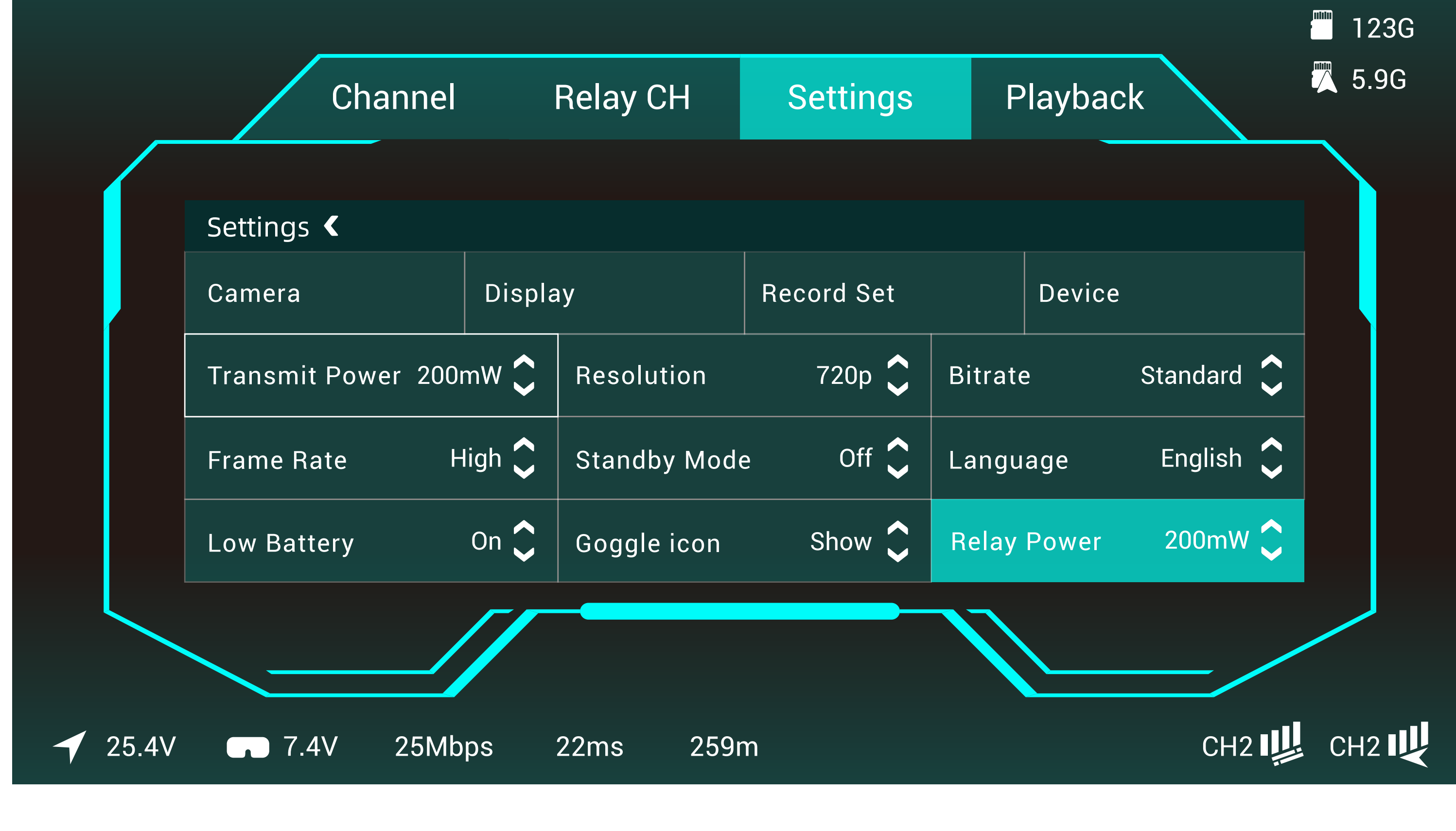
5– “Refresh” is to refresh the channel interference situation manually.

6– The white box is the current selection. Press the confirm button to highlight it. The highlighted box is the current channel.

7– VRX and repeater signal strength, signal strength is divided into 4 grids, 3 grids, 2 grids, 1 grid, and space. If the signal shows a space, it is not connected.

8– VTX and repeater signal strength, signal strength is divided into 4 grids, 3 grids, 2 grids, 1 grid, and space. If the signal shows a space, it is not connected.

Parameter settings-2



1–Camera:

The adjustable contents of the camera are scene preset, EV value, saturation, sharpness, white balance, rotate, ratio, 3D DNR, Shutter, and Max ISO settings.

2–Display:

Display adjustable content is Debug, brightness, focalization mode, custom OSD, OSD position, font upgrade, custom font, viewfinder, viewfinder edit settings.

3–Record set:

The recording can be adjusted as VTX REC resolution, REC device, takeoff REC, REC loop, format SD card, format VTX, Built-in EIS, REC Time, REC Format, Color, Saturation, Sharpness.

4–Device:

The adjustable contents of the device are buzzer volume, Ranging mode, Weak signal, Reset all, Device information, Instruction, and Switch mode.

5–Transmit Power:

Repeater and VRX communication power selection, the default options are 25mW, 200mW, 500mW, and 700mW.

6–Resolution:

The resolution can choose 720P and 1080P.

7–Bitrate:

Standard bit rate and high bit rate can be selected to obtain different image quality, and high bit rate can only be enabled in FCC mode.

8–Frame Rate:

Standard frame rate and high frame rate can be selected to obtain different time-lapse experiences.

9–Standby Mode:

When in standby mode, the transmission power of VTX terminal and VRX terminal is 10dbm, and the current set transmission power will be output only after exiting standby mode or turning off the standby mode switch. Turning on the standby mode requires the air unit serial port to be correctly connected to the flight controller. When the VRX receive the drone’s unlock signal, it will automatically exit the standby mode. It is recommended to turn off this function when using a repeater.

10–Language:

Language switching English/中文.

11–Low Battery:

Detect Goggles low battery alarm, intelligently identify the voltage of 2, 3, 4, 6 string LiPo batteries, alarm when a single battery is lower than 3.5V, red font and buzzer alarm when the voltage is too low.

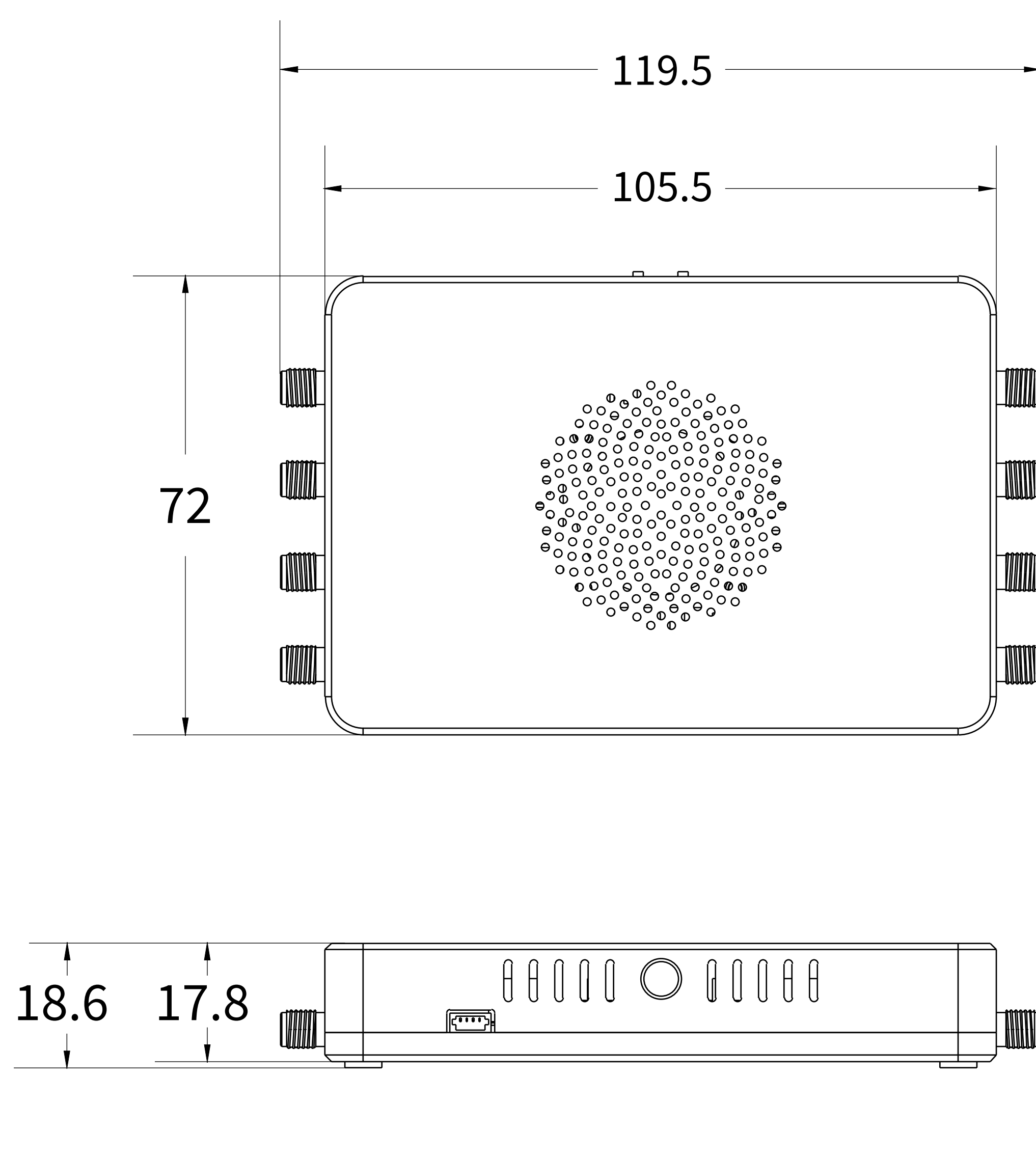
12–Goggle icon:

You can choose to display or hide the icons on the main menu interface.

13–Relay Power:

Repeater and VTX communication power selection, the default options are 25mW, 200mW, 500mW, and 700mW.

Dimensions



Unit: mm

Specifications

Communication Frequency	5.15GHz–5.30GHz; 5.50GHz–5.85GHz;
Transmitter Power (EIRP)	FCC:<30dBm; CE:<14dBm; SRRC:<20dBm; MIC:<25dBm
5.2G Antenna	Frequency range: 5.15GHz–5.30GHz Gain: 7dBi (AVG) Polarization: LHCP
5.8G Antenna	Frequency range: 5.50GHz–6.00GHz Gain: 7dBi (AVG) Polarization: LHCP
System	Avatar HD system
Power Input	9V–26V
Dimensions	119.5*72*18.6mm
Weight	145g (Antenna not included)
I/O Interface	Type-C , 4Pin 1.0mm Port,
Transmission Resolution	1080p/100fps, 1080p/60fps, 720p/100fps, 720p/60fps,

Precautions

Since the antenna coverage is directional, please point the repeater 5.2G antenna toward the VRX device and the 5.8G antenna toward the VTX device.

This product is relatively complex to use. Users need to have basic knowledge of wireless image transmission and safety common sense, and need to use it with caution.

Please install all antennas before powering on to avoid damage to transmitting components.