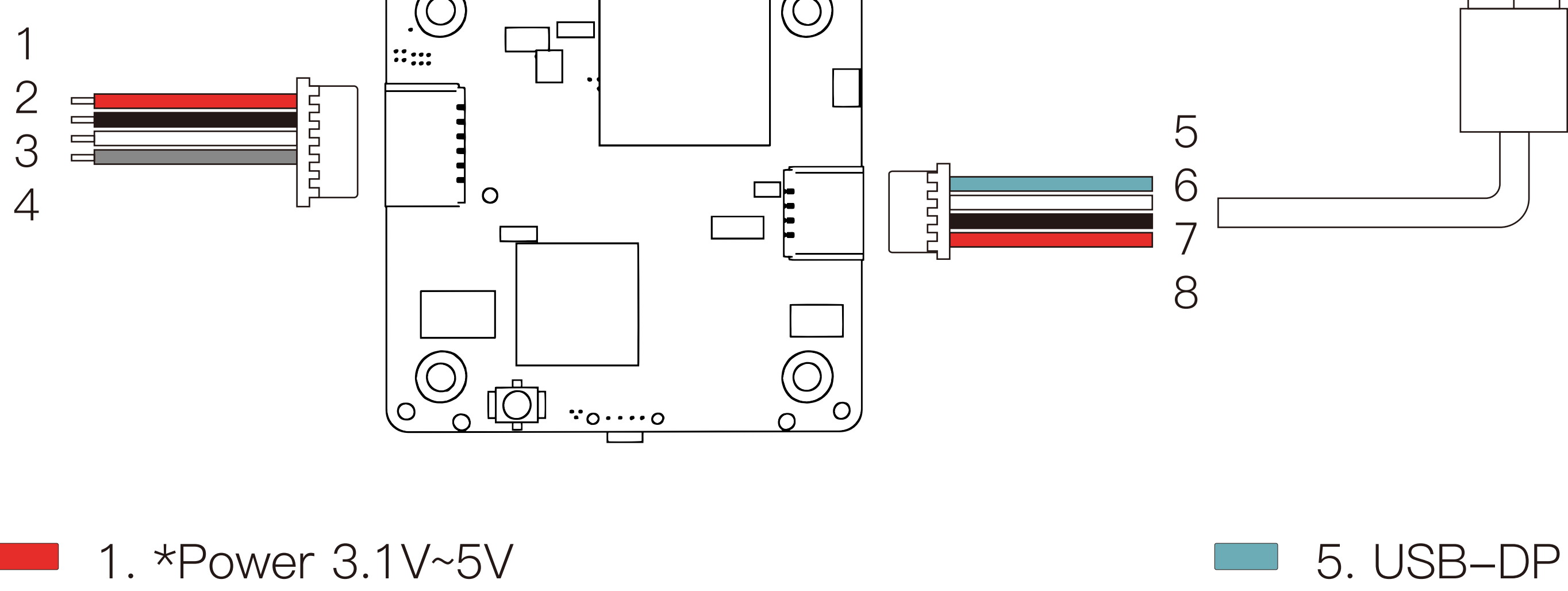


# AVATAR MINI 1S KIT

## QUICKSTART GUIDE

V1.1

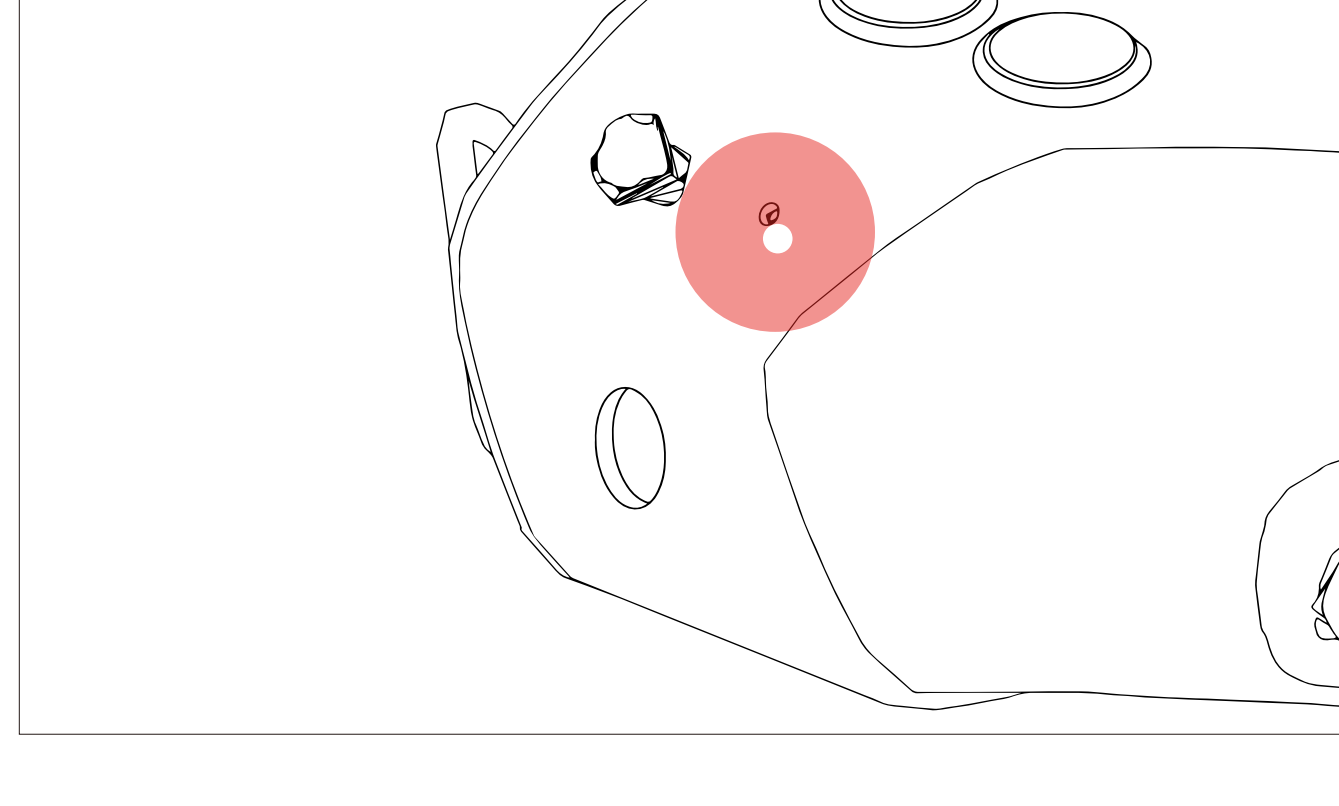
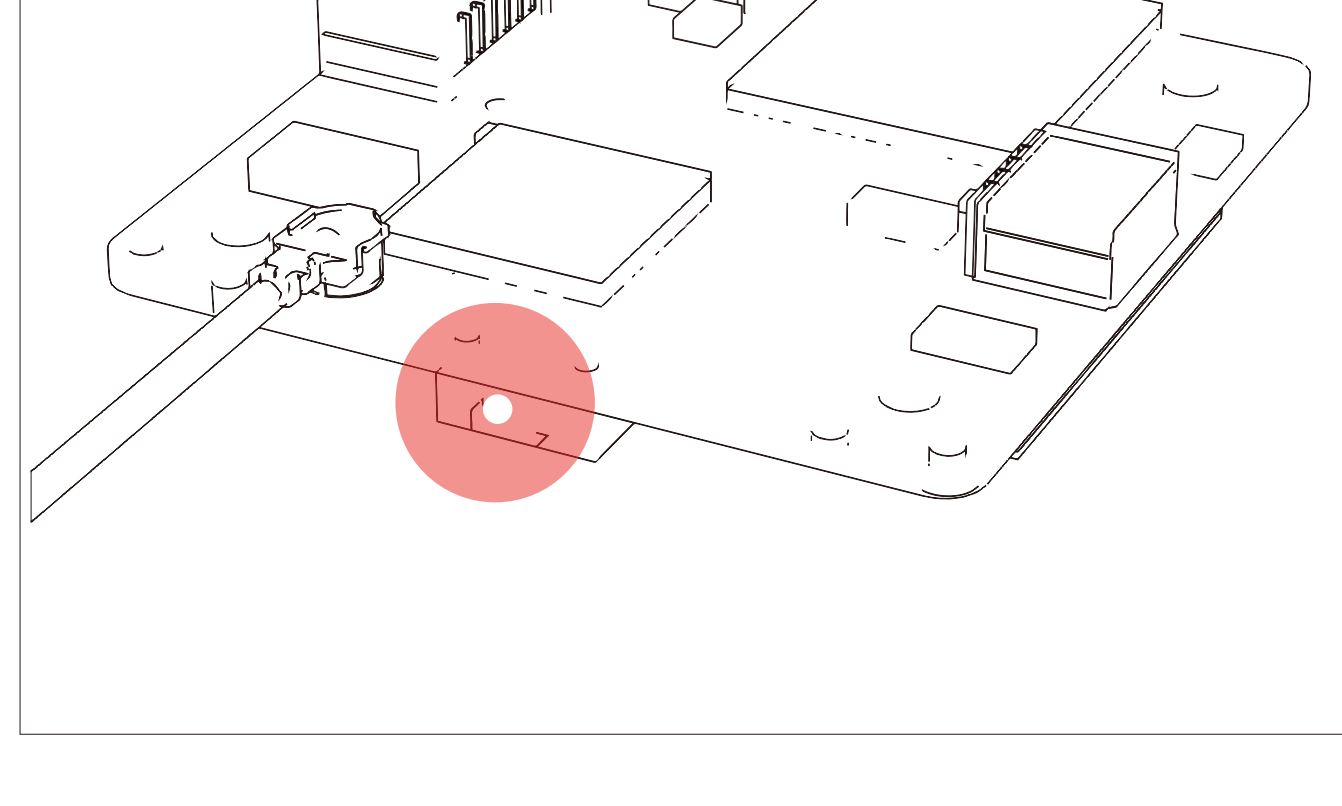
### Connection



- 1. \*Power 3.1V~5V
- 2. Power GND
- 3. Uart RX(Connects to Flight Controller TX)
- 4. Uart TX(Connects to Flight Controller RX)
- 5. USB-DP
- 6. USB-DM
- 7. USB-GND
- 8. USB-5V

\*The voltage input should not exceed 5V

### Linking



1. Connect the VTX and the power of the goggles.
2. Wait for the VTX to initialize and the green light flashes, and the status icon appears on the goggles.
3. Press the link button of the VTX and goggles respectively (as shown in the picture), when the VTX enters the pairing state The indicator light turns red, and the goggles end is a DI... DI... DI...
4. After the link is successful, the indicator light on the VTX turns solid green, the beeping sound on the goggles stops and the screen is displayed.

### upgrade

Please go to the official website to download the upgrade firmware, Avatar\_Sky\_X.X.X.img is the VTX file, Avatar\_Gnd\_X.X.X.img is the goggles file, copy it to the VTX or SD card, be careful not to change the file name. You need to turn on the power to use the U disk function.

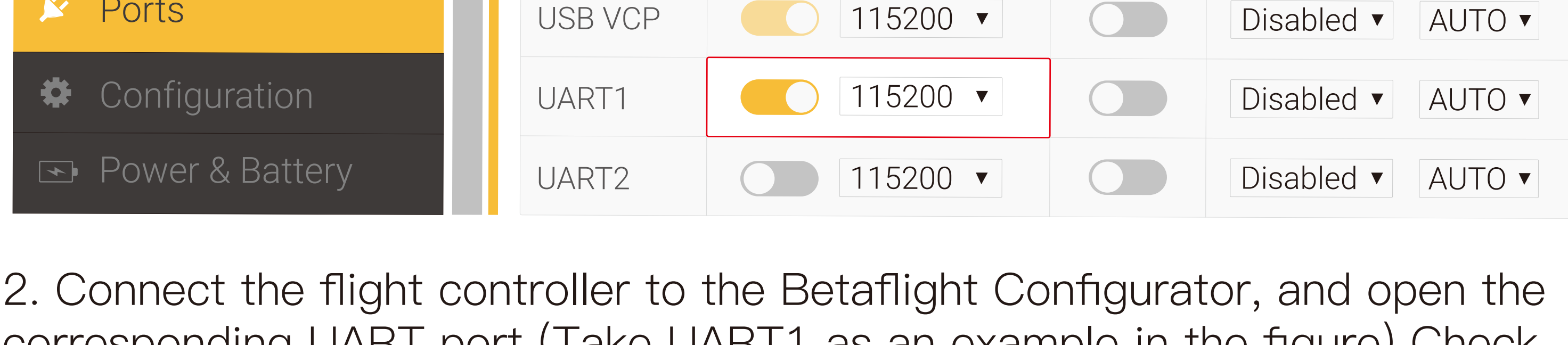
1. Copy the upgrade file to the root directory of the VTX and the goggles, connect to the power supply and wait for the device to initialize (delete the old firmware file first if there in one).
2. Press and hold the link button on the VTX and the goggles for 8 seconds, the indicator light flashes red when the VTX enters the upgrade state, and the goggles automatically restarts and emits a beep...beep...beeper sound. (Do not power off during the upgrade process, the upgrade time on the goggle is about 6 minutes)
3. After the upgrade is successful, the indicator light of the VTX turns green and flashes, and the beeping sound stops after the goggles beeps for 5 seconds.

Please use a fan for cooling with the VTX powered on

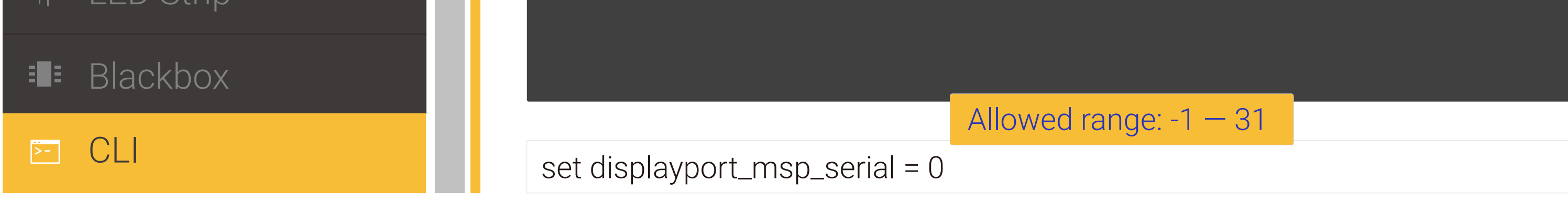
### UART

The UART function enables the VTX communicate with the flight controller, allowing the VTX obtain the flight controller information. Take Betaflight Configurator as an example to introduce the UART setting method.

1. Solder the white and gray wires of the 6 pin cable to the flight controller (refer to the Connection page)



2. Connect the flight controller to the Betaflight Configurator, and open the corresponding UART port (Take UART1 as an example in the figure) Check the MSP switch and click Save.



3. Open the CLI command line and enter the content in red font
  - “set osd\_displayport\_device = MSP”
  - “set displayport\_msp\_serial = Y” (Where Y is one less than the number of the serial port. e.g. Y = 2 for serial 3)
  - “save”

### Status indication

Goggles Buzzer Status	
Link state	DI....DI....DI....
upgrade firmware	DI.....DI.....DI..... DI——
Upgrade failed	DI..DI..DI..
VTX Indicator Status	
Link state	Steady red light
upgrade firmware	Red light rapidly flashes
Wireless connection, image output is normal	Steady green light
Wireless not connected	green light rapidly flashes
Wireless connection is normal, but the image is abnormal	green light slowly flashes

### Operating channel

Central frequency(MHz)	Channel1	Channel2	Channel3	Channel4	Channel5	Channel6	Channel7	Channel8
FCC	5660	5695	5735	5770	5805	5878	5914	5839
CE/SRRC	5735	5770	5805	-	-	-	-	5839
MIC	5660	5700	-	-	-	-	-	5745

Make sure you fully understand and abide by local laws and regulations before using this product. An amateur radio license may be needed in FCC regions when using channels 1,2,6or 7, as they are amateur frequency bands. Users who use the amateur frequency bands with a modified or cracked version or without a license may be punished for breaking local laws or regulations.

### VTX Specification

Model	Avatar mini 1S module
Communication Frequency	5.725–5.850 GHz
Transmitter Power (EIRP)	FCC: <25.5dBm; CE: <14dBm; SRRC: <20dBm; MIC: <25dBm
I/O Interface	JST1.0*6(Power in) JST1.0*4(USB)
Mounting Holes	25.5*25.5 mm
Dimensions	33*33*6.5 mm
Storage	8 G
Recording	1080p/720p
Weight	6.8 g
Operating Temperature	-20–40°C
Channels	8
Wide Power Input	3.1V–5V
Supported FC System	Betaflight
Bitrate	25mbps / 50mbps
OSD	Canvas mode
Latency	Average delay 22ms
Antenna	IPEX

### Camera parameters

Model	Avatar nano
Image Sensor	1/2.7”Inch
Resolution	1080P/60fps, 720P/120fps, 720P/60fps
Ratio	16/9 4/3
Lens	2.1mm
FOV	170°
Aperture	F2.0
Shutter	Rolling shutter
Min.Illumination	0.001Lux
Weight	3.5g
Dimensions	14*14*17mm
Coaxial Cable	45mm / 90mm

### VTX Antenna

Model	Polar antenna
Polarization	LHCP
Bandwidth	5.6GHz–5.9GHz
Average Gain	2dBi
Radiation Efficiency	≥98%
VSWR	≤1.4
Connector	U.FL
Line Length	90mm
Dimension	H105mm*R11.2mm
Weight	1.5g

WALKSNAIL Support  
email: support@walksnail.com

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