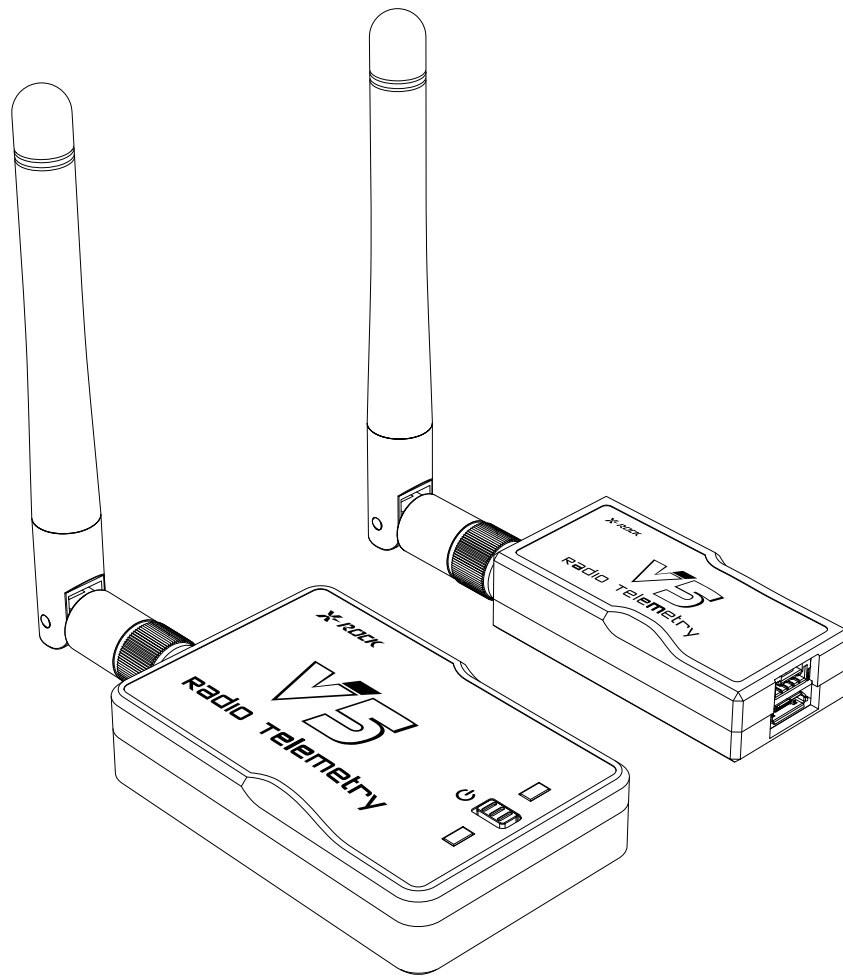# XROCK Bluetooth Radio V5

User Manual

V2.0   2019.9

![X-ROCK]

Disclaimers and Warnings

Thank you for purchasing XROCK products.Carefully read the manual before using this product.

Users must comply with local radio transmission laws and regulations when using this product. In using this product, you hereby agree to this disclaimer and signify that you have understood all points completely. When assembling this product, follow all instructions carefully. The manufacturer and seller assume no liability for any damage or injury arising from the use of this product.

Please visit the XROCK Bluetooth Radio V5 page on www.xrocklink.com regularly to keep up with product information, technical updates and manual corrections. Information in this manual is subject to change without notice in line with product upgrades and updates.

If there is any insoluble problem occurring, please seek help from the authorized distributor by XROCK or XROCK customer service.

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Content

Profile

A XROCK Bluetooth Radio V5 (comprises of an air module and a ground module) is a wireless communication module designed for real time data exchange between open source autopilot (such as APM, PX4, PIXHAWK) and ground station. As it has features of small volume, low power consumption, high data rate, stable performance, strong anti-interference ability and far communication distance, it can bring users more involved flight experience.

The air module is the telemetry while ground module is the receiver when the radio telemetry sends vehicle's status information .The air module receives it from the autopilot, modulates and transmits it to ground module wirelessly. Ground module demodulates it and sends signals to ground station monitor to display by way of Bluetooth or USB cable.

Download and install Mission Planner or DroidPlanner ground station applications to your mobile devices (mobile phones, tables and laptops) when first to use. Ground module can connect to mobile devices by way of Bluetooth or USB cable. The ground station monitor can display vehicle's status information in real time when air module connects to autopilot and ground module connects to the ground station.

In the Box

Ground Module×1

It connects with your mobile devices by Bluetooth or USB cable. Mobile devices use it to contact with the autopilot, send order and receive flight data.
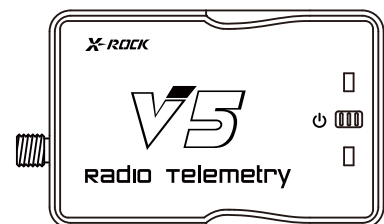
Air Module×1

It connects with the autopilot by the corresponding connecter cable. The autopilot communicates with ground module using it, sends flight data and receives orders.
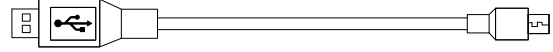
Antenna ×2

It is used to connect with port of air module and ground module.

Micro-USB Cable ×1

It is used to connect the module to mobile devices, to communicate, set parameter and charge, etc.

4-Pins GH to 6-Pins Molex Connector Cable×1

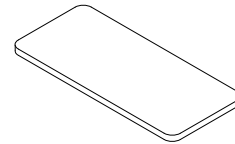It is used to connect air module with PixHawk1 and older autopilots .

4-Pins GH to 6-Pins GH Connector Cable×1

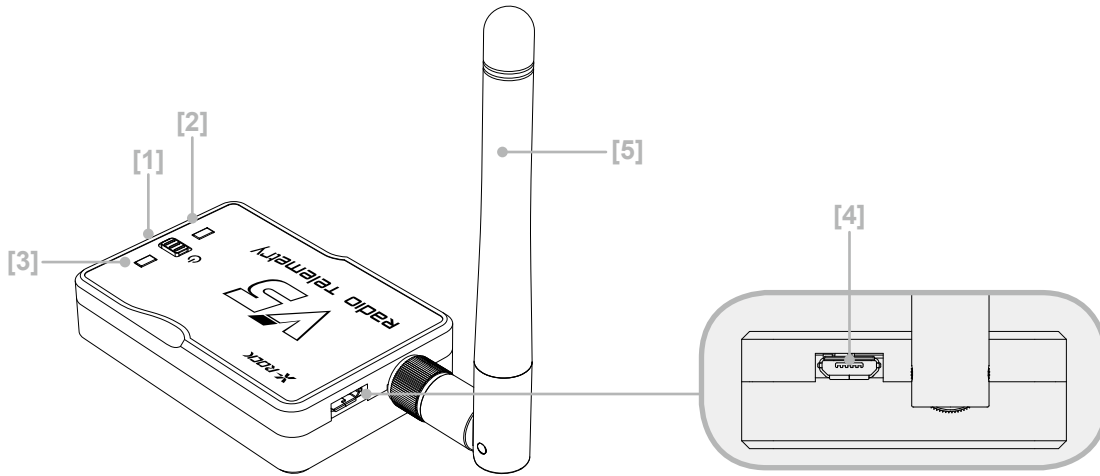It is used to connect air module with newer autopilots.

Double-sided Tape×2

Double-sided tape can be used to fix the radio telemetry.

Introduction

Ground Module

[1] POWER Button

Turn on/off Ground Module .

Turn on: When power is off, press the button for more than 2 seconds to turn on.

Turn off: When power is on, press the button for more than 2 seconds to turn off.

[2] POWER Indicator

Smartly present the battery capacity of the inner lithium battery.

Indicator	Descriptions	Battery Capacity
Green LED Solid	Green LED Solid	50%~100%
Green LED Blinking slowly	Green LED Blinking slowly	20%~50%
Green LED Blinking fast	Green LED Blinking fast	5%~20%
Green LED Off	Green LED Off	<5%

Ground module can be connected with mobile device, mobile phone adaptor or portable power source

by USB cable to charge the inner lithium battery, at this time the ground module is charging.

Indicator	Descriptions	Instruction
Green LED Blinking slowly	Green LED Blinking slowly	On charging
Green LED Solid	Green LED Solid	Charging completed

[3] Bluetooth Condition Indicator

Show the Bluetooth connection is successful/failed.

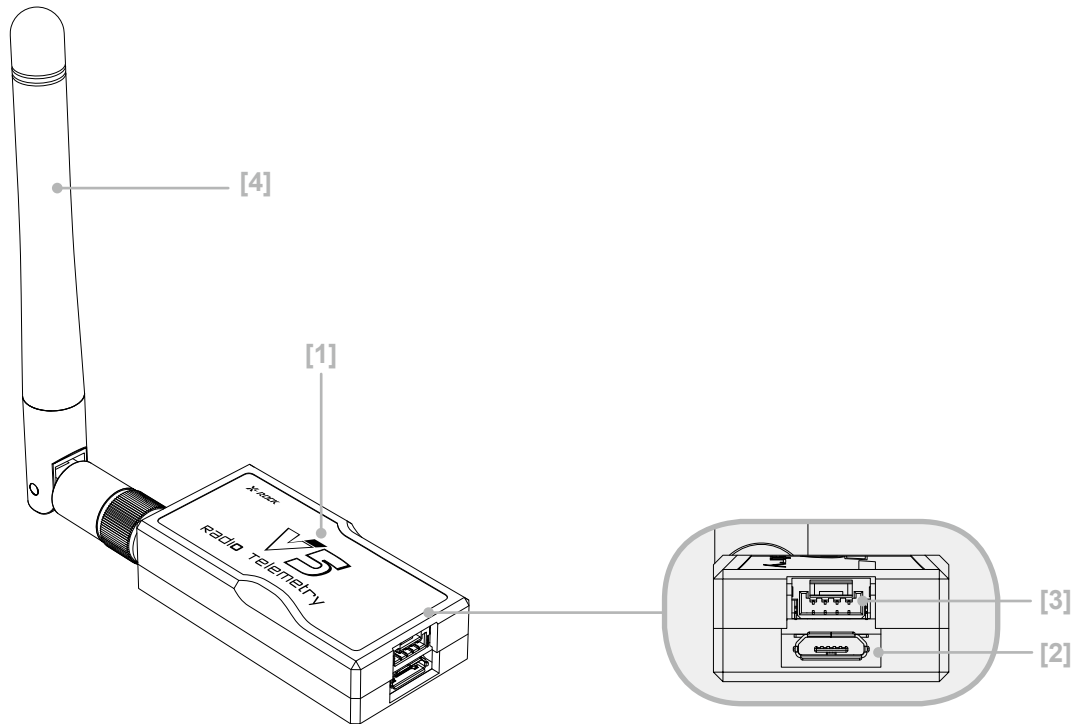| Indicator	Descriptions	Instruction
Blue LED Blinking	Blue LED Blinking	Bluetooth connection is failed
Blue LED Solid	Blue LED Solid	Bluetooth connection is successful

[4] Micro-USB Port

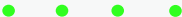Use it to connect with mobile device communicate, set parameter and charge.

[5] Antenna

Send and receive signals.

Air Module

[1] Condition Indicator

Show the connection condition between air module and ground module.

Indicator	Descriptions	Instruction
Green LED Solid	Green LED Solid	Connection is successful
● ● ● ●	Green LED Blinking	Connection is failed
Red LED Solid	Red LED Solid	Firmware is updating

[2] Micro-USB Port

Connect the mobile device and set parameter.
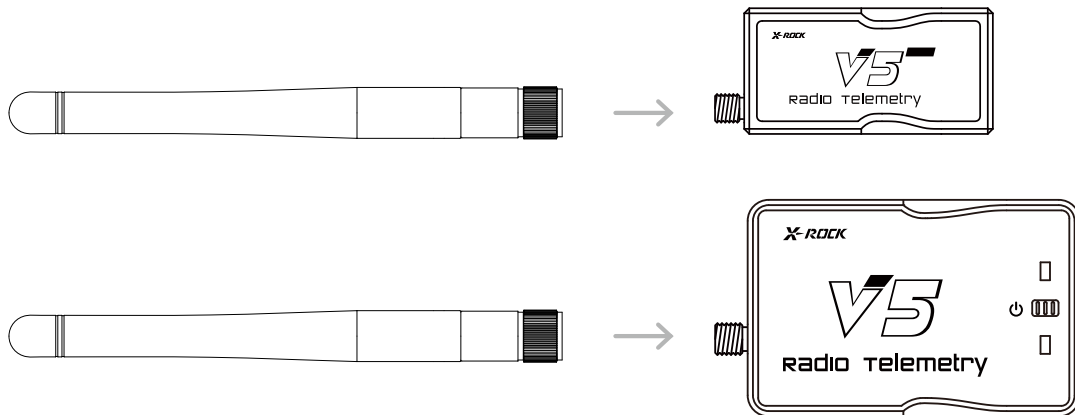
[3] 6PIN Port

Connect the autopilot.

### [4] Antenna

Send and receive signals.

Installation

Install Antennas

⚠ ・ You must install the antenna before the power is on,avoiding damaging the circuits.

　　・ You must use the antenna of designated type. Do not use antenna of other types.

　　・ Put the antenna at a condition of no obstructing, avoiding shortening the communication
　　　 distance, even cutting down the communication.

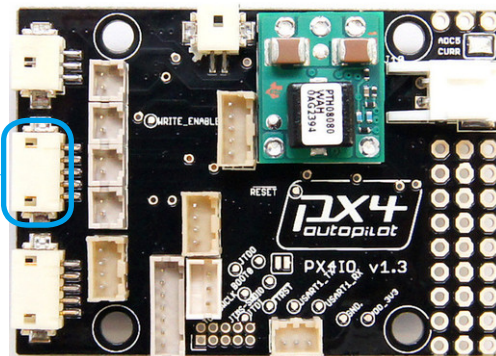　　・ Do not remove antennas after installing it, avoiding damaging the module.
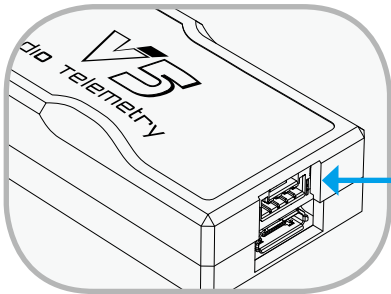
Connect to Autopilot
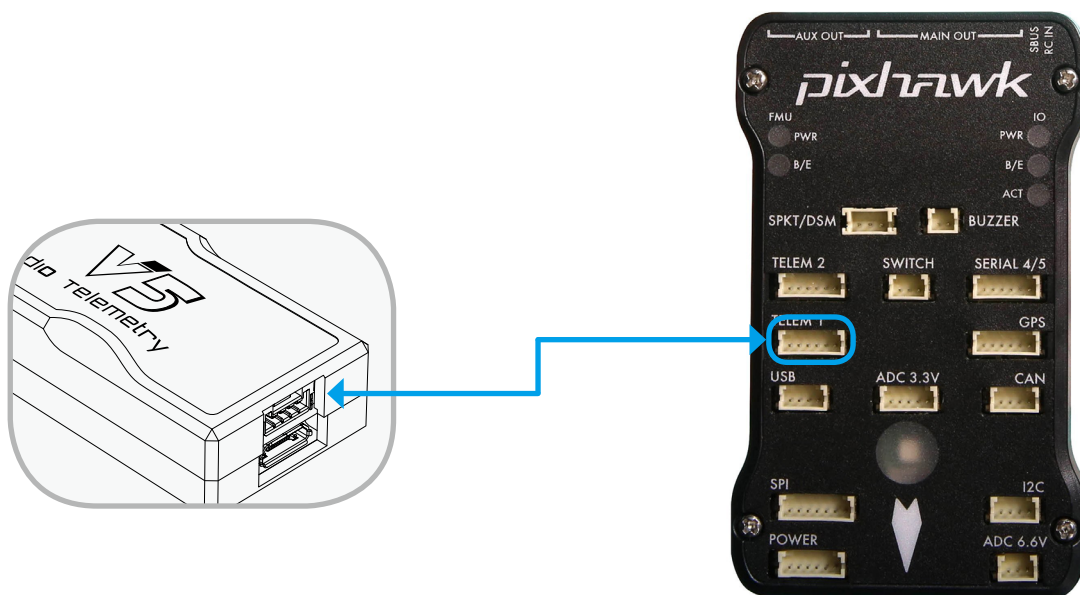
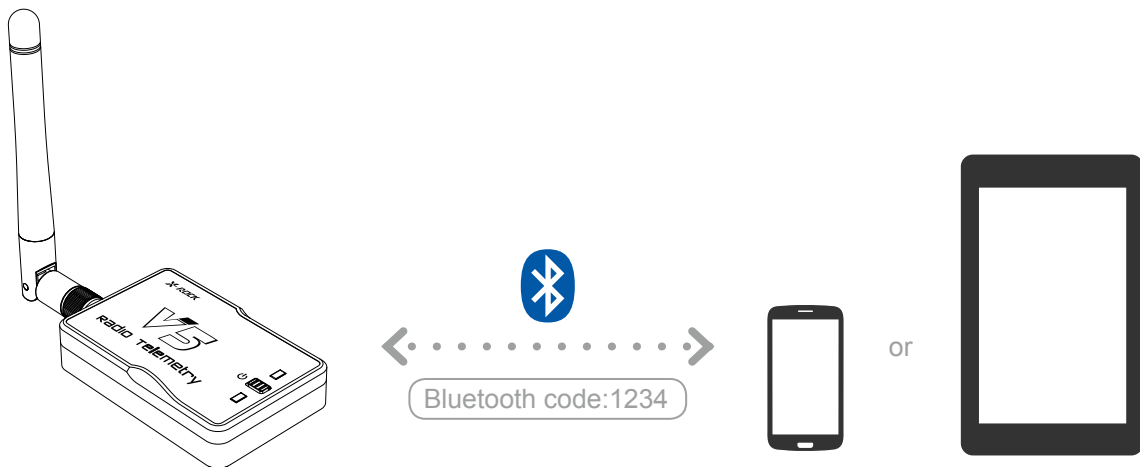⚠ Connect to the Pixhawk telemetry port using the 4-to-6-pin cable.
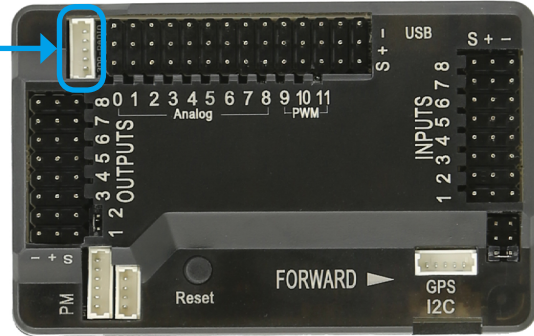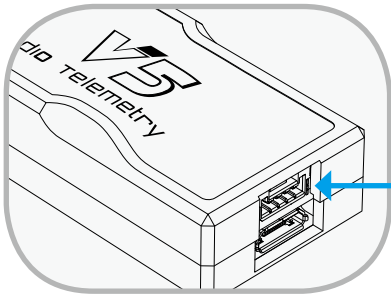
⚠️ Connect to the APM telemetry port using the 4-to-5-pin cable.

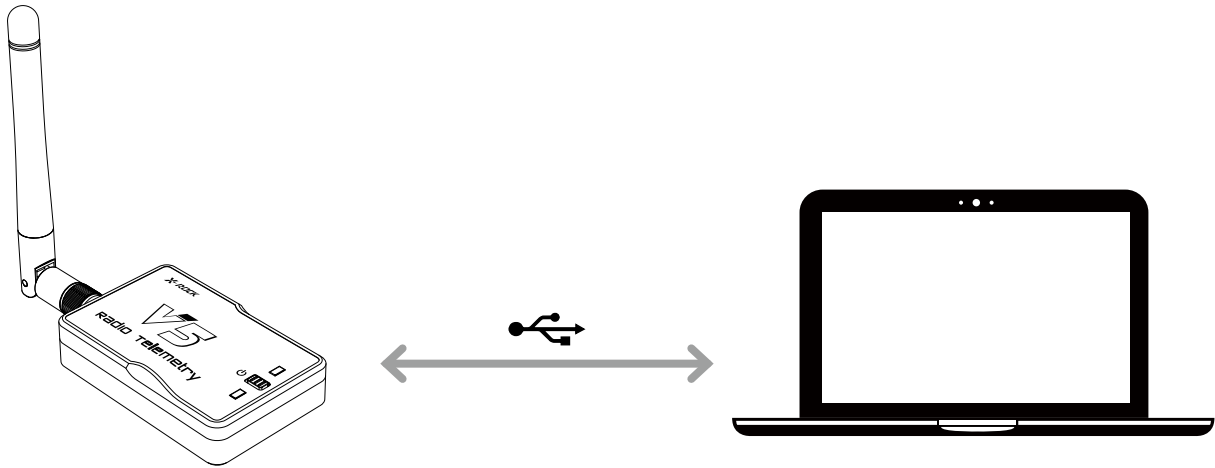⚠️ Connect to the PX4 I/O telemetry port using the 4-to-5-pin cable.

Connect to Mobile Device
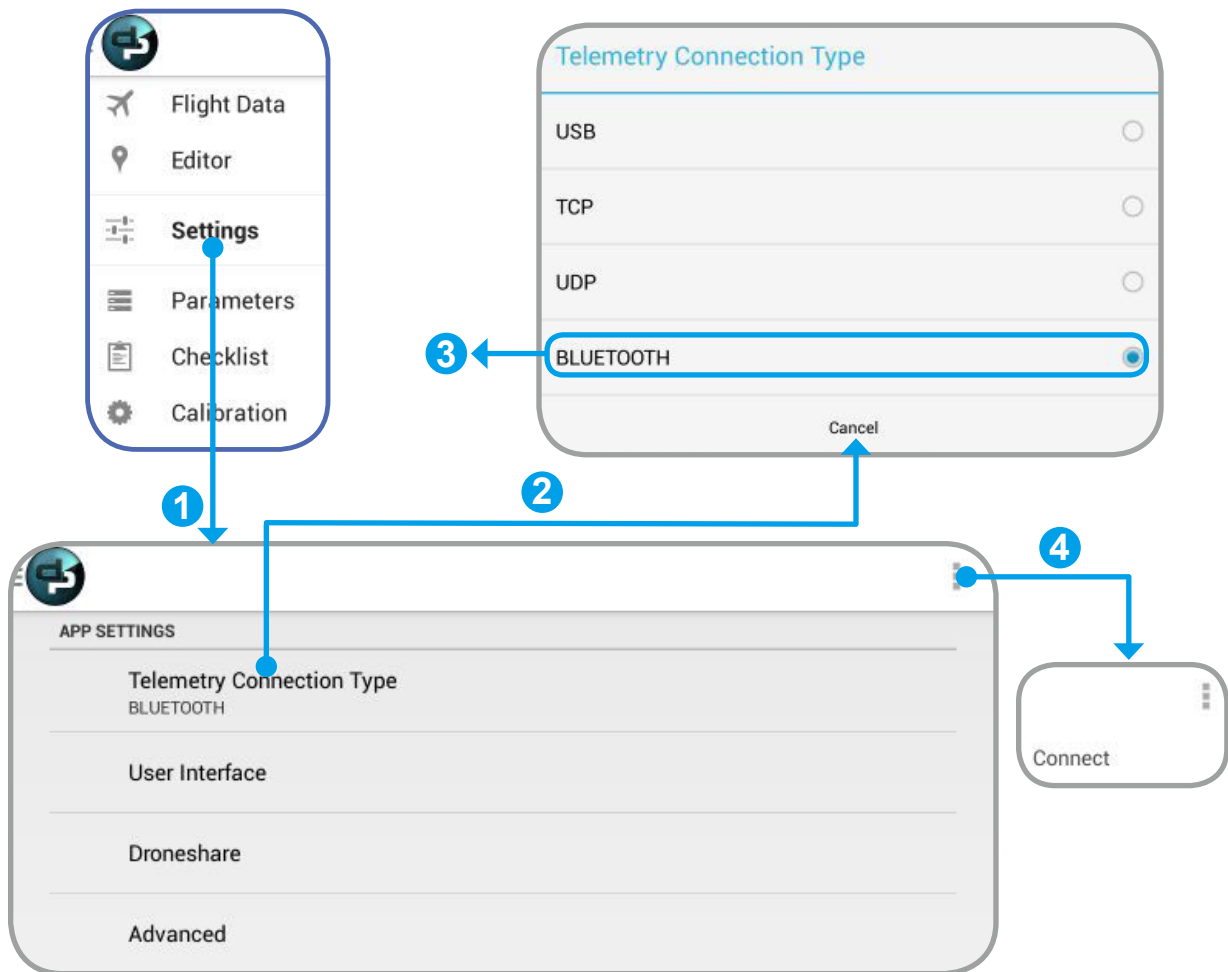
Bluetooth code:1234

or

Use mobile device with ground station to connect the ground station by Bluetooth.

⚠️ Turn on the Bluetooth of mobile device and search for "UAV-2" to pair.
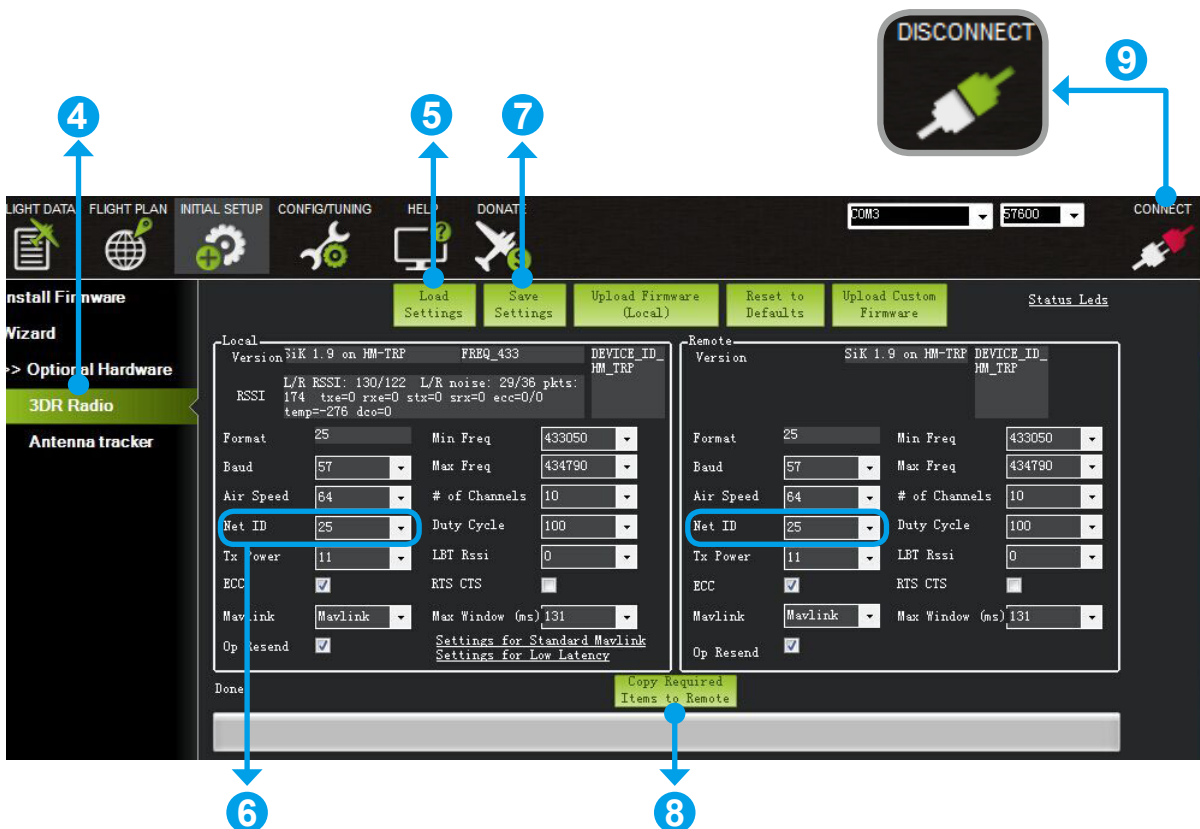
⚠ Use Micro-USB cable to connect ground module and a laptop loaded with ground station.You need to download the latest version of RTB BOX drive on the XROCK official website.

Settings

⚠ After Bluetooth pairing and air module installation is successful, operating DroidPlanner according to the picture. Select Connect, and air-to-ground data link can be realized.

- After installing the module , operate the Mission Planner according to the picture.

- For several radio telemetries working concurrently, make sure your Net IDs will not conflict.

- After setting all the parameters, select Connect, and air-to-ground data link can be realized.

Specifications

Performance Parameters

Type	XROCK Bluetooth Radio V5
Communication Distance	≤5000m
Bluetooth Available Distance	8~10m
Working Frequency	433MHz or 915MHz
Maximum Transmitted Power	1000mW
Baud Rate	57600 (default)

Physical Parameters

Operating Temperature	-10℃ ~60℃
Operating Humidity	10% RH ~ 90% RH (non-condensing)
Dimension (no antenna)	· Ground Module：63mm(L)×41mm(W)×15mm(H) · Air Module : 49mm(L)×25mm(W)×13mm(H)
Weight (no antenna)	· Ground Module : 34g · Air Module : 12g

Power Requirement of Ground Module

VBAT	3.7V (LiPo)
Battery Capacity	500mAh
USB Charging Voltage	4.5~5.5V
Charging Current	500mA
Operating Current	150mA
Standby Current	2mA
Working Hours	5h(Full Power)

Power Requirements of Air Module

Working Voltage	5.0V~5.5V DC
Emission Current	150mA@30 dBm
Receiving Current	25mA

X-ROCK

The content is subject to change.

Download the latest version of manual from the official website.

If there is any insolveable problem, seek help by calling the customer helpline: **+86 1525-7072-135**.
If there is any question about this manual, please send mails to contact XROCK: **superwei@xrocklink.com**.