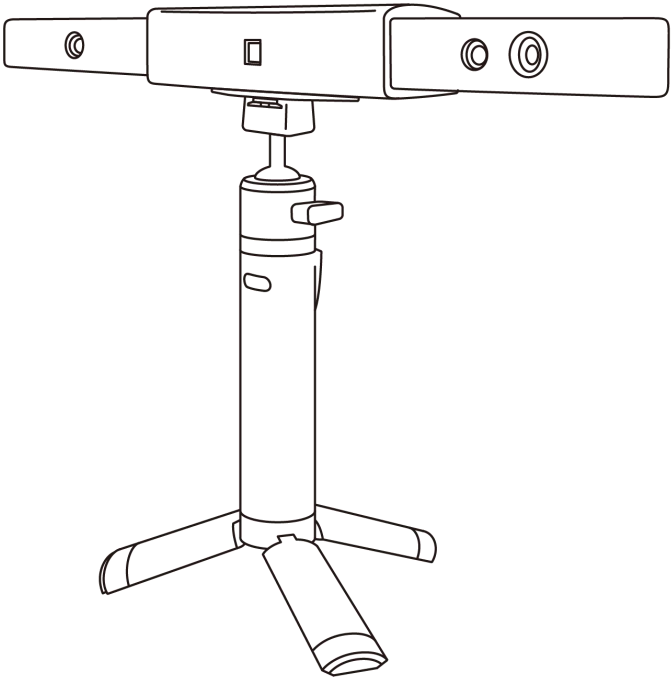
RANGE 3D SCANNER

User Manual V 1.0



REVOPOINT

2022.11

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Read Before Your First Scan

Software Download

To use your Revopoint RANGE 3D Scanner, you must download the Revo Scan software. It can be found on Revopoint's website for Windows and macOS systems, and for Android or iOS smartphones, it can be found by searching for "Revo Scan" in the Google Play store or Apple App Store.

For the detailed functions of Revo Scan, please refer to the how-to-use guide in Revo Scan.

Scanning Dark, Transparent, or Reflective Objects

Like most 3D scanners, the RANGE will struggle to scan transparent, reflective, or black objects without first treating the object's surface with scanning spray, baby powder, or dry shampoo.

Scanning Objects with Plain Surfaces

Scanning objects with simple geometric features, like a football or wine bottle, requires using Marker stickers or marker points and scanning in Marker Mode.

1. Place the Marker stickers on the objects' surface irregularly and ensure that there are at least 5 Marker stickers in the frame for the

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entire scan, or the scanner will lose track.

2. If using marker points (these can be anything as long as they have complex features to track), place 2 to 3 around the object you wish to scan.

Please watch the video tutorial for using Marker stickers by scanning the QR code.

Color Scanning

If you want to accurately capture an object's color during a scan, please ensure that the object is evenly lit with soft light and that there are no dark or hard shadows.

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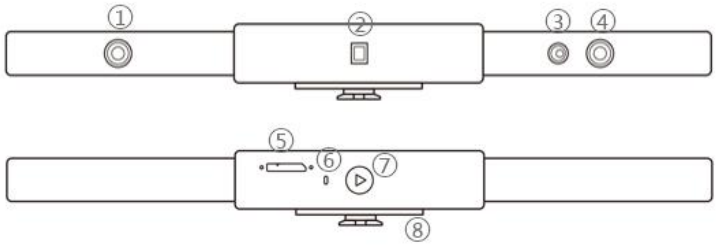
About the Scanner

The Revopoint RANGE 3D Scanner is an infrared structured light scanner designed for scanning large objects like cars, people, furniture, etc. Its self-developed chip and intelligent algorithms combined with its more powerful projector and dual IR cameras with aspheric lens enable a single capture range of 360mm x 650mm, a working distance of 300mm ~ 800mm, a scanning speed of 12fps to 20fps, and a single-frame precision of up to 0.1mm.



1. Depth Camera
2. Projector
3. RGB Camera
4. Depth Camera
5. Micro-B USB Port
6. LED Indicator
7. Start/Pause Scan Button
8. Quick Setup Board

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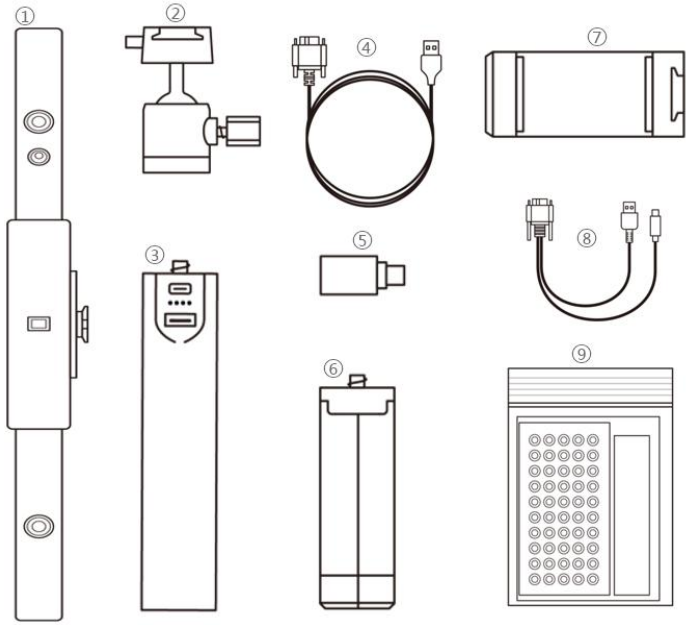
What's in the Box?



1. RANGE 3D Scanner
2. Universal Ball
3. Power Bank Handle
4. USB Cable (Micro-B to Type-A)
5. Adaptor (Type-A to Type-C)
6. Mini Tripod
7. Phone Holder
8. 2-in-1 Mobile Cable
9. Gifts(100 pcs Marker, Glue Tack, Black Plastic Sheet)

RANGE on a Windows or Mac Device

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Both Windows and macOS computers are compatible.

System Requirements

Windows: Win 8 / 10 / 11 (64-bit)
Memory: ≥ 8G
Windows 7 is not supported.

Mac with Intel × 86 chip: Mac OS 10.15 and models after;
Mac with Apple M1 chip: Mac OS 11.0 and models after;
Memory: ≥ 8G

* Minimum PC Display Screen Resolution: 1344x768 (1920×1080 is recommended.)

Connection Methods

	Windows	macOS
USB Mode	√	√
Wi-Fi Mode	√	√

Connect the RANGE to a PC Via USB

Step 1: Screw the Universal Ball onto the Power Bank Handle.
Step 2: Screw the Mini Tripod onto the bottom of the Power Bank.
Step 3: Clip the RANGE to the top.

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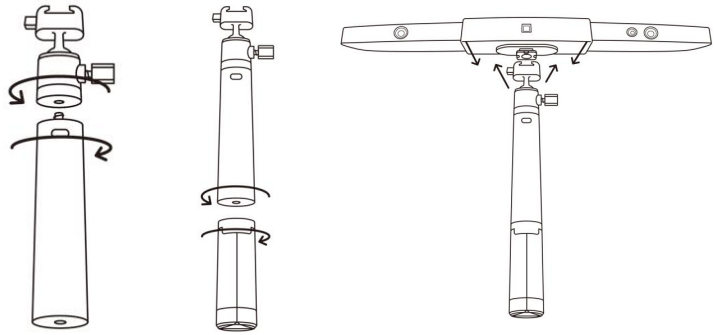
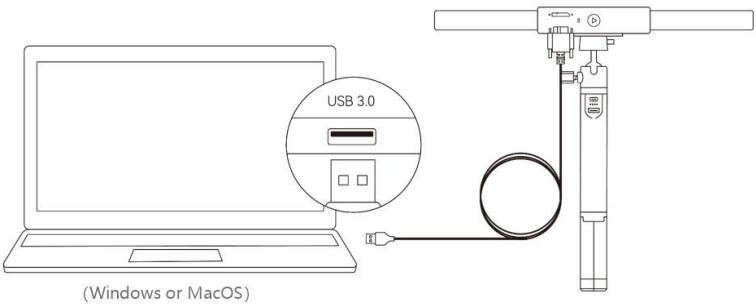


Step 4: Connect the micro-B USB end of the cable to the back of your RANGE.
Step 5: Plug the Type A end into your computer.
Step 6: Open Revo Scan on your computer.



Note:
1) Connect the RANGE to a USB 3.0 port or above, as USB 2.0 will not supply sufficient operating power. Ensure your USB 3.0 port is not damaged or worn out.
2) If there is no Type-A port on your laptop, use the Type-A-to-C

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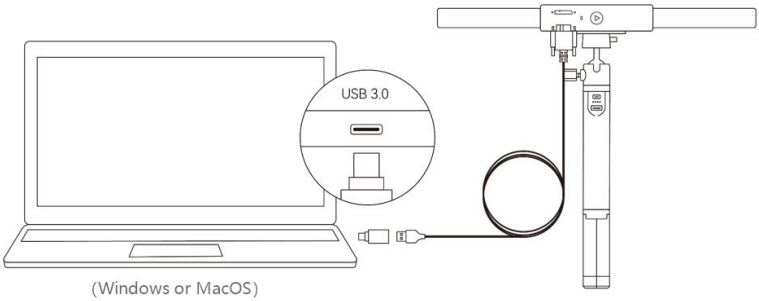
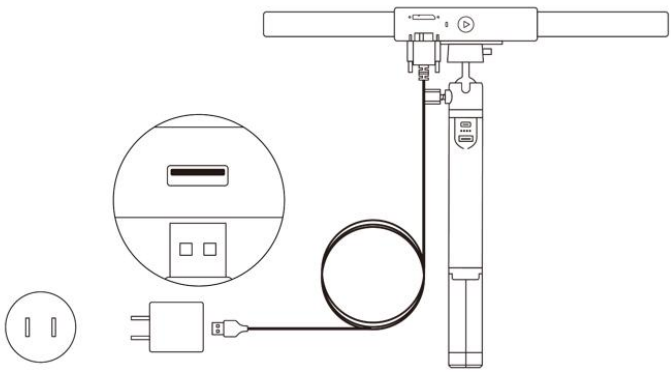
Adaptor.



Connect the RANGE to a PC Via Wi-Fi

Step 1: Power the RANGE on with a power bank or an AC adapter.



Note: Do not plug it into your PC, or it will be USB mode by default.

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Step 2: Connect the PC to the RANGE.
1) Go to your Wi-Fi setting, search for a network called RANGE-XXXXXX and connect. (No password is required)
2) Wait a few seconds for the scanner to be connected.

Step 3: Open Revo Scan on your computer.

RANGE on Smartphones

Android devices can connect via either USB and Wi-Fi. However, iOS devices only support Wi-Fi mode.

System Requirements

Android: ≥Android 9.0
RAM: ≥ 6GB
*Harmony OS is supported.

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iPhone: iPhone 8 Plus or models after;
iPad: 6th generation iPad and models after;
System Version: ≥ iOS 13.0

Connection Methods

	Android	iOS/iPadOS
USB Mode	√	√
Wi-Fi Mode	√	×

Connect the RANGE to an Android Phone via USB

Step 1: Screw the Phone Holder onto the Power Bank.
Step 2: Clip the RANGE to the Top of the Phone Holder.
Step 3: Pull open the Phone Holders clamps and fit your smartphone.
Step 4: Step 4: Connect the Micro-B end of the 2-in-1 Mobile Cable to the RANGE's port, Type-A to the Power Bank, and Type-C to an Android smartphone.

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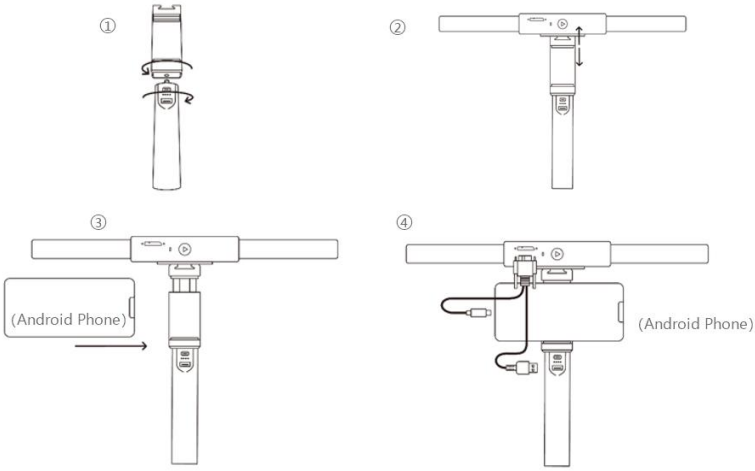
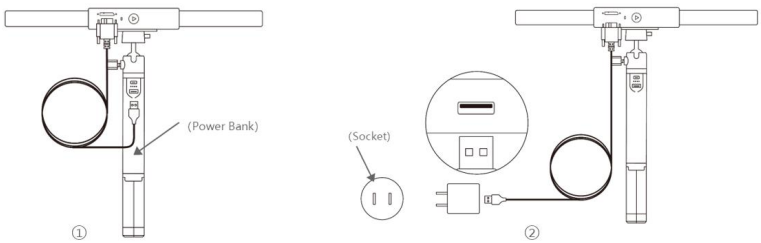


Connect the RANGE to a Phone Via Wi-Fi

Both Android and iOS Phones are compatible.
Step 1: Power the RANGE on via a Power Bank Handle or a Socket.



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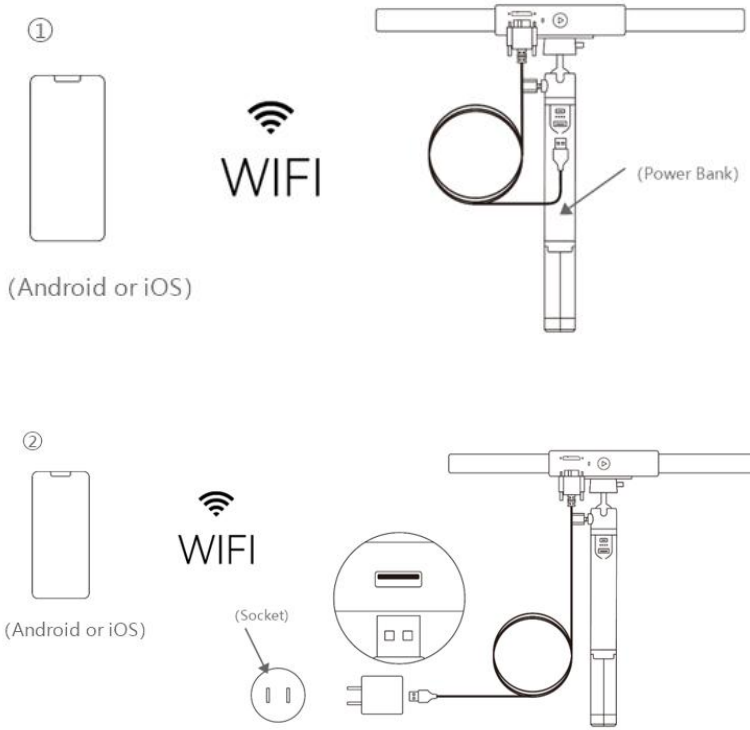
Step 2: Connect the Smartphone to the RANGE.

1) Go to your Wi-Fi setting on your smartphone, search for a network called RANGE-XXXXXX and connect. (No password is required)
2) Wait a few seconds for the scanner to be connected.



Step 3: Open Revo Scan on your phone.

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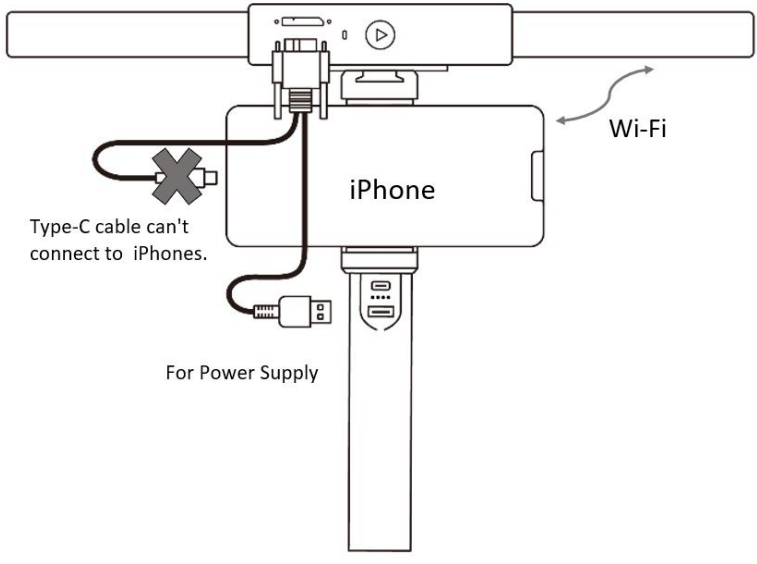
Note：If you have an iPhone, and want to use the 2-in-1 Mobile cable to scan, it can works like:



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Appendix

Specifications

Product Name	Revopoint RANGE
Technology	Biocular Dual Camera Infrared Light
Single-frame Precision	Up to 0.1mm
Single-frame Accuracy	Up to 0.3mm
Single Capture Range	360mm x 650mm @600mm
Working Distance	300mm ~ 800cm
Minimum Scan Volume	50mm x 50mm x 50mm
Scanning Speed	12fps - 20fps
Light Source	Class 1 Infrared Light
Scanning Modes	Feature, Marker, Body, and Dark
Color Scanning	Yes
Output Formats	PLY, OBJ, and STL
Point Distance/Resolution	0.3mm
Special Object Scanning	Use scanning spray for transparent, dark, or highly reflective objects.

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Scanning Environment	Indoors and Outdoors
Scanner Weight	210g
Scanner Dimensions	295mm x 41.5mm x 28.2mm
3D Printing Compatible	Yes
Compatible OS	Windows 8/10/11 (64-bit), Android, iOS, macOS
PC Display Screen Revolution	>1344x768 (1920×1080 is recommended.)
Connection Modes	USB 3.0, or Wi-Fi
Bluetooth	4.1
Hardware Button	Start/Pause Scan

Note:
1. Accuracy was acquired in a controlled lab environment. Actual results might vary, subject to the operation environment.
2. Windows 7 is not supported.
3. iOS devices only support Wi-Fi connection.
4. Class 1 Laser: Avoid direct eye exposure for extended periods! Refer to Standards for Class 1 Lasers for details.

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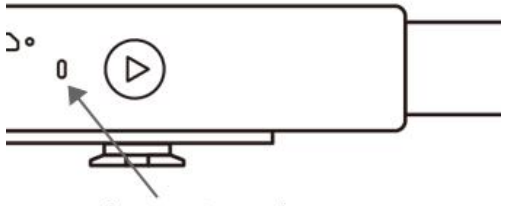
LED Indicators



Indicator in Red:
Powered on, and starting

Indicator in Green:
Working properly

Update the Firmware

When you connect your RANGE to Revo Scan, a pop-up will notify you of any firmware updates. If you want to update your firmware, follow the install wizard's prompts and ensure that your RANGE has a stable power supply.

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Scanner Calibration

Your RANGE 3D Scanner was calibrated in the factory and only needs to be recalibrated after a year of use or if the scanned results do not match the specified accuracy.

Safety Maintenance Instructions

1. Small parts, such as markers and USB adaptors, are dangerous if swallowed. Keep all components out of reach of children and animals to avoid serioud injury to them.

2. Store the scanner and all accessories in a cool, dry place away from direct sunlight.

3. Do not allow the scanner to come into contact with or become immersed in water or other liquids. If it gets wet, wipe them dry with a soft, absorbent cloth. Operating a scanner that has fallen in water may cause permanent component damage.

4. Keep the cameras (the two IR cameras, one RGB camera and a projector) clean. Use 95% isopropyl alcohol and a soft cloth to clean them.

5. Handle the scanner with care to avoid hitting the cameras.

6. The operating temperature range of this product is 0°C to 40°C (32°F to 104°F).

7. Do not take apart the scanner. If there are any problems or questions, contact the Revopoint customer service team at customer@revopoint3d.

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Troubleshooting

1. What to do if you get a "check internet connection" error when trying to download a firmware update?

Check your device's Firewall Settings and confirm Revo Scan is not being blocked or the Firewall is off. Try to open api.infly3d.com in a web browser. If you can access this website, it means Revopoint's server is working correctly.

2. What to do if my RANGE turns on but its LED never turns solid green, indicating that it's ready to connect?

Connect your RANGE to a power source, then press the RANGE's Start/Pause scan button ten times to reset the RANGE. If that doesn't resolve the issue, please get in touch with customer support.

3. What to do if the RANGE always loses tracking when scanning?

Try using scanner spray, dry shampoo, or baby powder to lightly coat any shiny or dark surfaces on the object. If the object has plain surfaces, you'll need to place Marker stickers (place them irregularly and ensure that at least five will always be in the frame when you're scanning) and select Marker mode for the scan. Ensure your model has no deep shadows and is evenly lit with a soft light.

4. What to do if the object you want to scan isn't clear in the preview window?

Increase the Brightness in Revo Scan till the object looks clearly defined and has as few red and blue patches in the preview window as possible.

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5. What to do if your scanned model's surfaces lack detail or the details are smeared?

Unfortunately, you'll need to redo the scan, but be careful and ensure you only scan an area once rather than multiple times. Basically, the smaller the number of frames, the better the scan quality. Scanning the same spot twice will only lower the detail.

6. What to do if you keep running out of memory when scanning?

The object you're scanning is too large for your computer or smartphone's amount of RAM. If this happens, pause the scan, fuse the model, and start a new scan from where you had to pause your previous scan. These separate scans can be merged together in Revo Studio to make a whole model once you've finished scanning the object.

7. How do I reset the scanner?

Connect your RANGE to a power source, then press the RANGE's Start/Pause scan button ten times to reset the RANGE.

Customer Service

If you need any assistance with your scanner, please don't hesitate to contact us at customer@revopoint3d.com or drop us a line at +1 (888) 807-3339 or chat with one of our customer service agents online on our website https://www.revopoint3d.com/ click the speech bubble on the bottom right corner of the screen.

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FCC Warning

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.

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

Note: 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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Note:5150-5250MHz only use indoor.

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