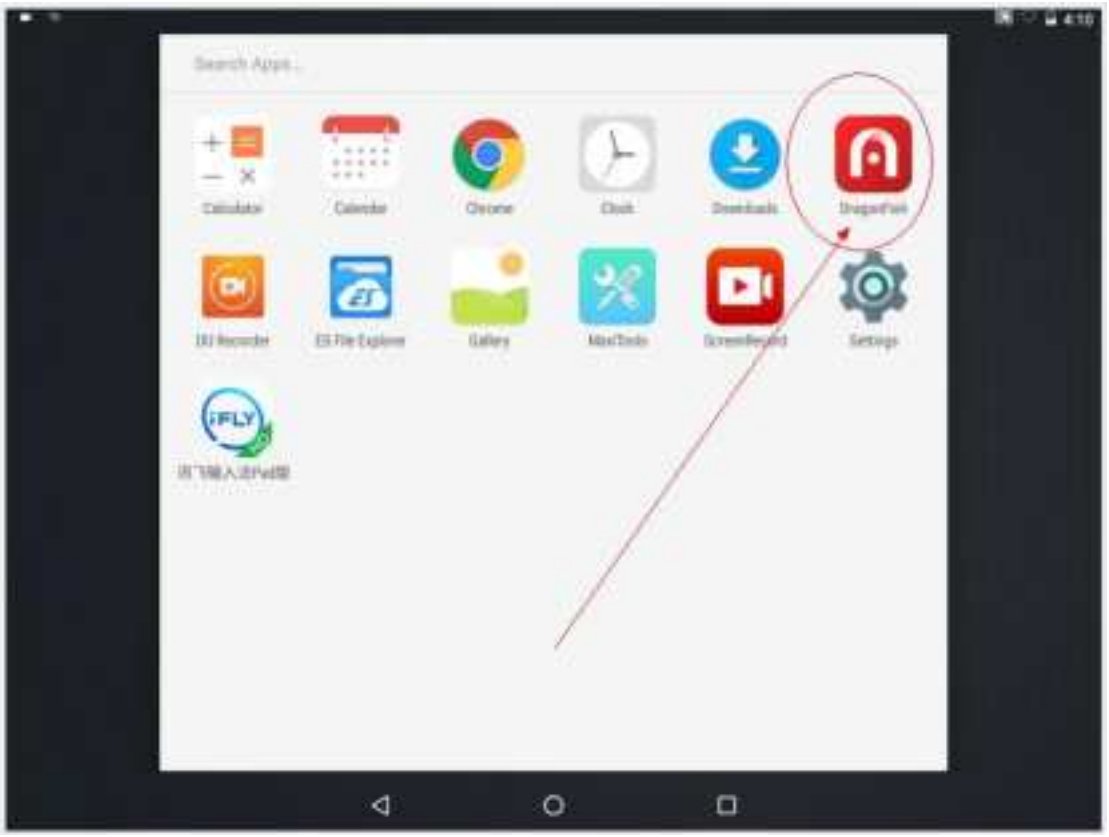
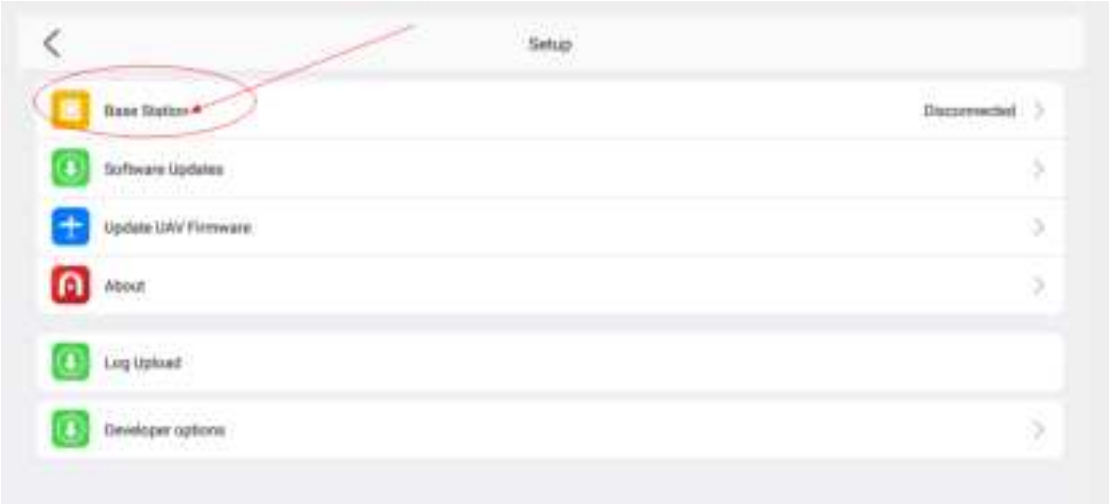
# Dragonfish PAD Remote controller user manual


Power button of the android PAD, for power on and off, and close/on the LCD.



The main APP.



When connect the wifi of base station, Power on the base station, and follow the up steps to connect the wifi of base station.


Project List
Photo Album
Tutorials


Disconnected
N/A
44%
N/A
N/A
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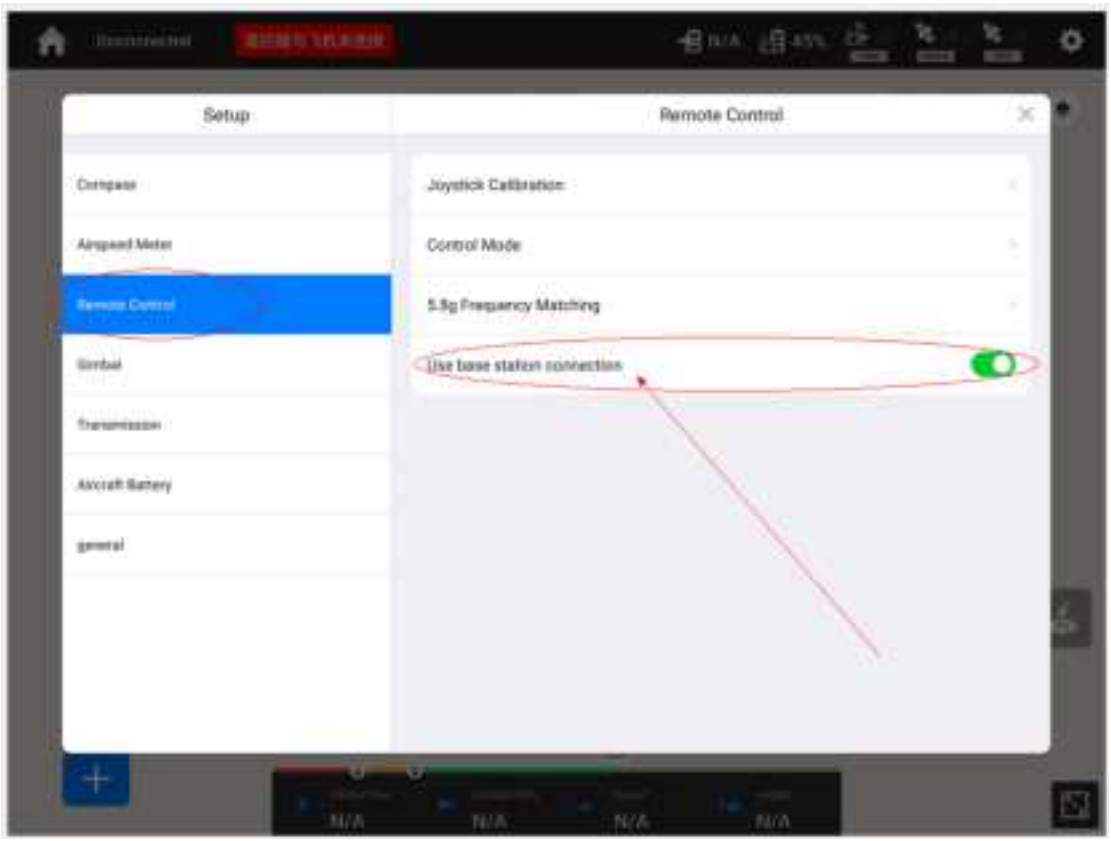
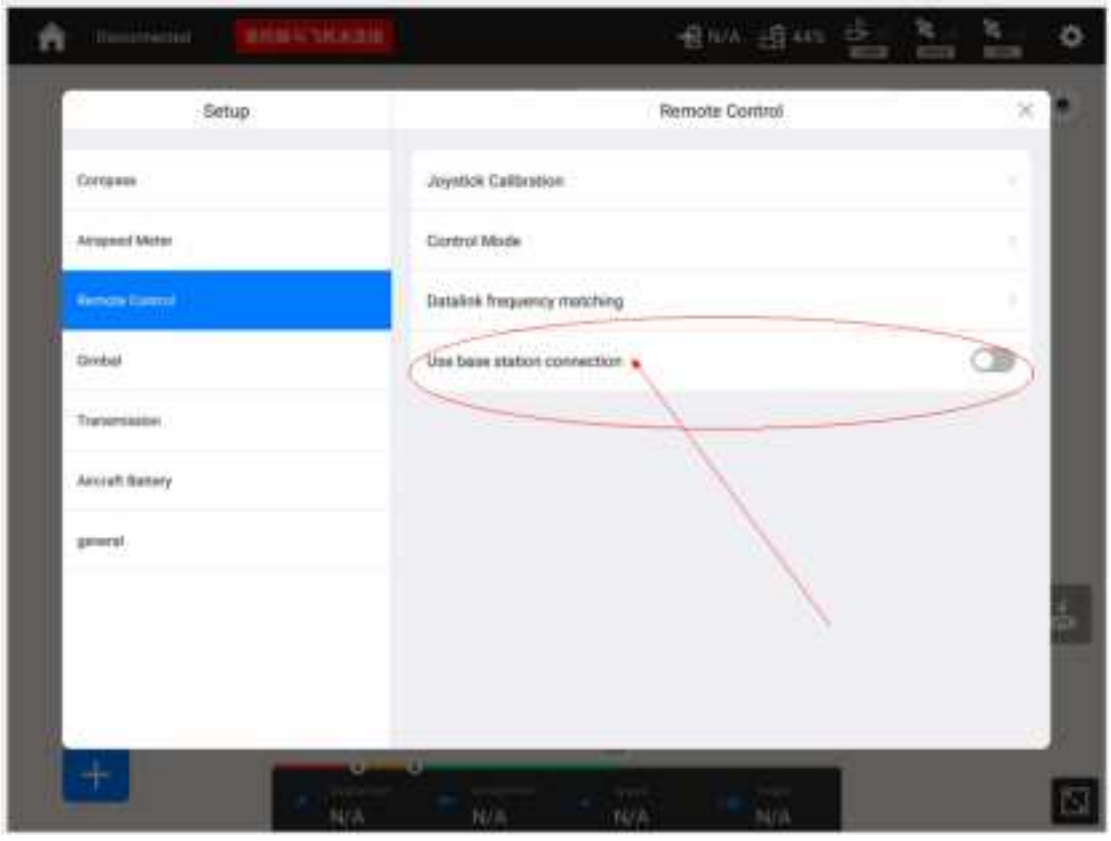
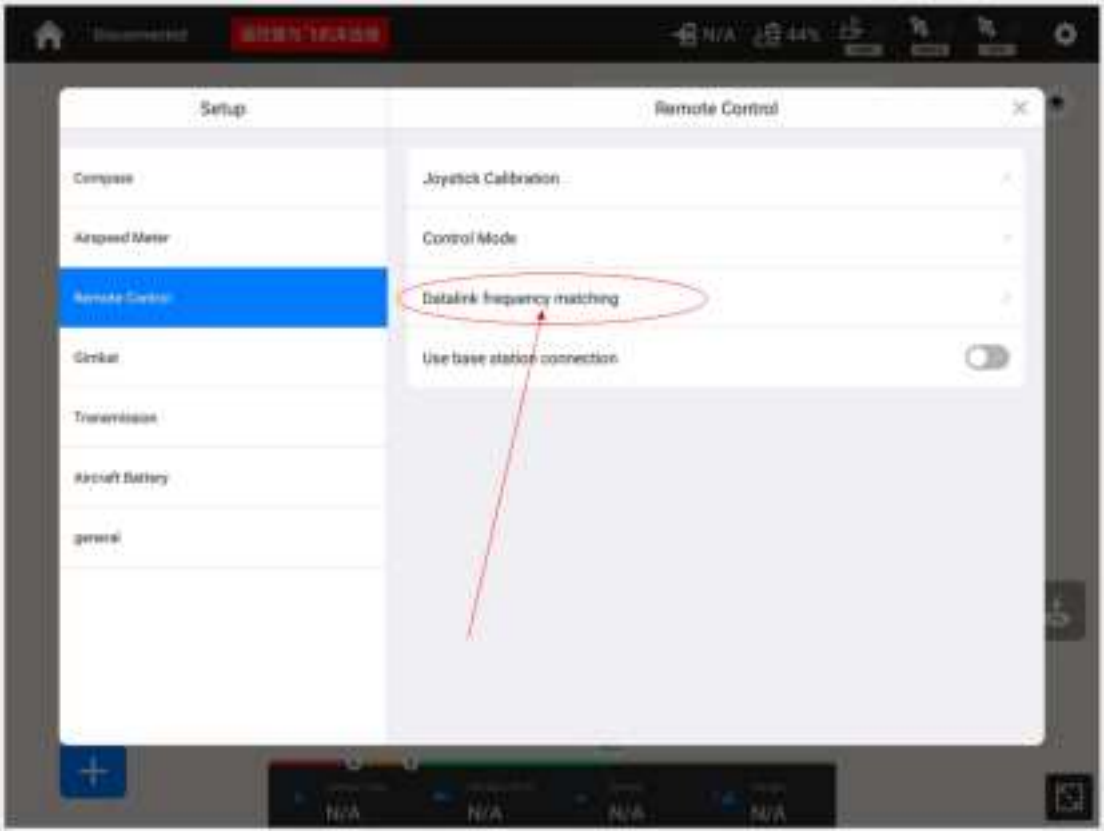
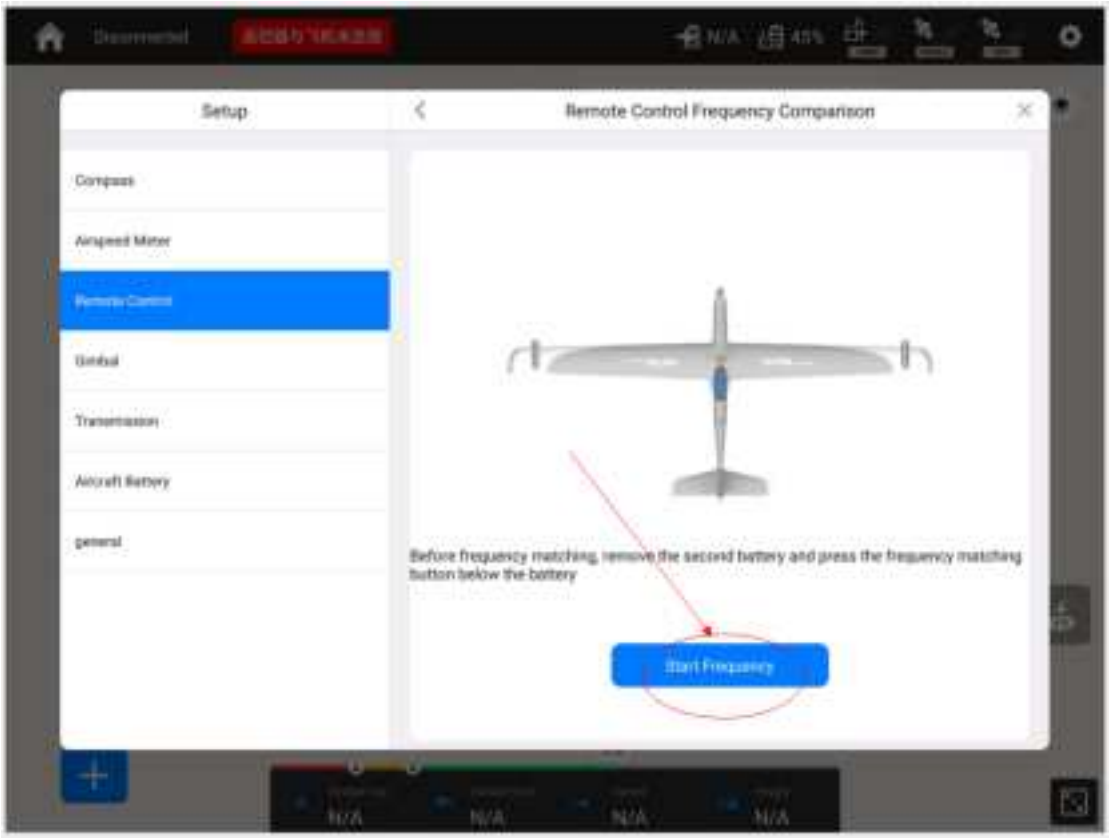
N/A




When connect the UAV through base station, follow the up steps to setup.

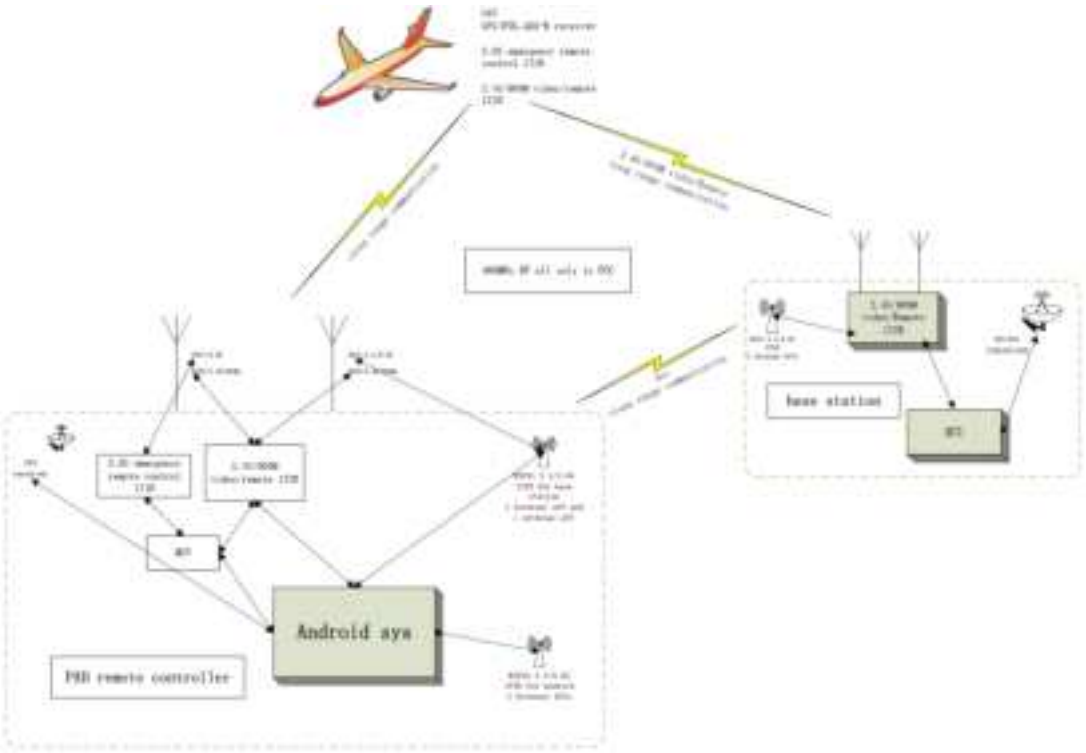





When connect the UAV direct, and match the RF connection, setup the up steps.

RF Block diagram:



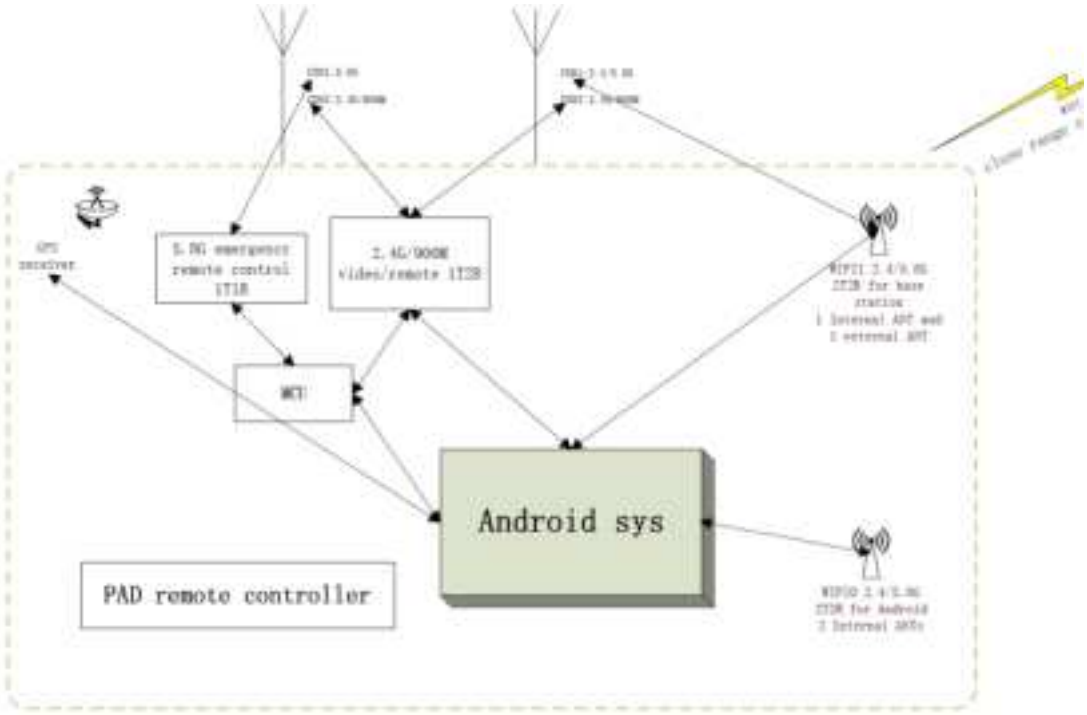

Dragonfish PAD Remote controller wireless datasheet

A. Overview

Dragonfish PAD Remote controller contain the following 5 wireless modules：

1. 900M/2.4GHz image transmit module，fix 1T2R work mode，only one frequency band operates in the same time period. Default operates in 2.4GHz band. System can automatically open 900MHz band when the GPS location is in North America；
2. System 2.G/5.8G dual-band wifi module，fix 2T2R work mode，only one frequency band operates in the same time period. Default operates in 2.4GHz band（Wifi 0）；
3. 2.G/5.8G dual-band wifi module for dragonfish base station，fix 2T2R work mode，only one frequency band operates in the same time period. Default operates in 5.8GHz band（Wifi 1）；
4. 5.8G remote controller, default operates in receive mode. When receives the correct ID UAV signal，the module can work in transmit/receive mode;
5. GPS module，default receives GPS，Glonass and Galileo signals.

B. Block diagram




C. Three working modes:

1. PAD working but not connect base station, not connect UAV

   Only android wifi 0 work, wifi 1 for base station can work when start dragonfish app. 5.8G remote controller works in receive mode; 900M/2.4G image transmit module closed。

2. PAD working normal mode: wifi 1 connect base station, base station connect UAV

   wifi 0 module works in 2.4G band; wifi 1 module works in 5.8G band and connect base station, 5.8G remote controller connect UAV；900M/2.4G image transmit module closed。

3. PAD connect UAV directly, no base station in use.

   wifi 0 module works in 2.4G band; wifi 1 module closed；5.8G remote controller connects UAV; 900M/2.4G image transmit module working, default working in 2.4G band. IF the GPS location is in North America, image transmit module can work in dual-band mode, but there is only one frequency band work in the same time period。

## 5.3 Maximum RF Output Power

Chip 1:

| WLAN 2.4 GHz Band Average Power (dBm) | | |
|---|---|---|
| Mode/Band | g | n (HT-20) |
| WLAN 2.4GHz | 15.72 | 15.76 |

| WLAN 5.2 GHz Band Average Power (dBm) | | |
|---|---|---|
| Mode/Band | a | n (HT-20) |
| WLAN 5.2GHz | 16.98 | 16.87 |

| WLAN 5.8 GHz Band Average Power (dBm) | | |
|---|---|---|
| Mode/Band | a | n (HT-20) |
| WLAN 5.8GHz | 15.40 | 15.39 |

Chip 2:

| | WLAN 2.4 GHz Band Average Power (dBm) | | |
|---|---|---|---|
| Mode/Band | b | g | n (HT-20) |
| WLAN 2.4GHz | 14.66 | 16.01 | 16.04 |

| WLAN 5.2 GHz Band Average Power (dBm) | | |
|---|---|---|
| Mode/Band | a | n (HT-20) |
| WLAN 5.2GHz | 10.20 | 10.16 |

| WLAN 5.8 GHz Band Average Power (dBm) | | |
|---|---|---|
| Mode/Band | a | n (HT-20) |
| WLAN 5.8GHz | 11.80 | 11.84 |

Chip 3:

| 900MHz Average Power (dBm) | |
|---|---|
| Mode/Band | / |
| 900MHz | 19.16 |

| 2.4GHz Average Power (dBm) | |
|---|---|
| Mode/Band | / |
| 2.4GHz | 19.50 |

Chip 4:

| 5.8 GHz Average Power (dBm) | |
|---|---|
| Mode/Band | GFSK |
| 5.8GHz | 22.04 |

SAR tests are conducted using standard operating positions accepted by the FCC/ISEDC with the device. When used, please keep the distance with a minimum of 10mm from the body.

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.

**FCC Statement**

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. 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.

**SAR Information Statement**

Your wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radiofrequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. * Tests for SAR are conducted with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output. Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone when tested for use on the body, as described in this user guide, is **1.046W/Kg**(Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements). While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure. The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RFexposure guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of http://www.fcc.gov/ oet/fccid after searching on
FCC ID: 2AGNTDFRC2409A Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Asso-ciation (CTIA) web-site at http://www.wow-com.com. * In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg (W/kg) averaged over one gram of tissue. The standard incorporates a sub-stantial margin of safety to give additional protection for the public and to account for any variations in measurements.

**Body-worn Operation**

This device was tested for typical body-worn operations. To comply with RF exposure requirements, a minimum separation distance of 10mm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.

IC STATEMENT

This device complies with Industry Canada licence-exempt RSS standard(s)

Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue.

when worn on the body is 1.046 W/Kg.This device was tested for typical body-worn operations. To comply with RF exposurerequirements, a minimum separation distance of 15mm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

5150-5250MHz is only for indoor use

Ce dispositif est conforme aux normes autoriser-exemptes du Canada RSS d'industrie

L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.Cet équipement est conforme avec l'exposition aux radiations IC définies pour un environnement non contrôlé. L'utilisateur final doit respecter les instructions de fonctionnement spécifiques pour satisfaire la conformité aux expositions RF. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec une autre antenne ou transmetteur.Ces exigences définissent la valeur SAR limite à 1.6 W / kg en moyenne par gramme de tissu.La valeur SAR la plus et lorsque porté sur le corps est **1.046**W kg.

Cet appareil a été testé pour des opérations portés sur le corps typiques. Pour se conformer aux exigences d'exposition aux radiofréquences, une distance minimale de 15 mm doit être maintenue entre le corps de l'utilisateur et le combiné, y compris l'antenne. Les pinces de ceinture, les étuis et autres accessoires similaires utilisés par cet appareil ne doivent pas contenir de composants métalliques. Les accessoires portatifs qui ne répondent pas à ces exigences peuvent ne pas se conformer aux exigences d'exposition RF et doit être évitée.

Utilisez uniquement l'antenne fournie ou une antenne approuvée

5150-5250MHz is only for indoor use