

Nest RF-6 Manual

Version 1.0

1. Overview

Nest RF-6 is an image transmission module with WIFI, Ethernet and RTK module designed and manufactured by Autel Robotics Co., Ltd.

The module is developed based on the 4G TD LTE technology platform and is suitable for point-to-point image and data bidirectional transmission. The module provides the function of automatically and manually selecting frequency bands, and has super anti-interference ability.

2. Characteristics

Single power supply

USB2.0

Support four-frequency automatic selection, adaptive frequency point

Support USB 2.0 upgrade

Support network upgrade

Supports quick data retrieval via Wi-Fi

Encrypted transmission

Full industrial grade components to meet the harsh working environment

Product size is small and easy to integrate Specification

Parameter	Description	Comments
System	Linux/Android	
MCU	CX1911	
eMMC/Flash	32GB+24Gb	
Image transmission Frequency	900MHz: 904-926MHz 2.4GHz: 2403.5-2475.5MHz 5.2GHz: 5154-5246MHz 5.8GHz: 5728-5847MHz	1. Work in one frequency band and frequency at the same time. 2. Can manually set frequency point.
image transmission Bandwidth	1.4MHz/3MHz/5MHz/10MHz/20MHz	
Output Power	FCC CE	FCC: ≤30dBm CE: ≤20dBm
WIFI	2412-2462MHz, 5180-5240MHz, 5725-5825MHz	802.11a/b/g/n/ac/ax
RTK	BDS B1I/B2I/B3I/B1C/B2a/B2b GPS L1/L2/L5 GLONASS L1/L2 Galileo E1/ E5a/E5b/E6	
Connector/Definition	Debug Panel: UARTx1, Baud rate: 2000000	
DC Power	48V	48V typ.
Power Consumption	≤10W@FCC	

	≤8W@CE	
Work Temperature	-30°C~60°C	
Humidity	99% No condensation	
Storage Temperature	-40°C~85°C	

3. FCC Compliance Statements

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.

Caution: 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.

RF Exposure Compliance

This equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 30 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations IC CNR-102 établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 30 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être colocalisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

4. IC STATEMENT

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

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

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences

et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas causer d'interférences.

(2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.

IC Radiation Exposure Statement

This modular complies with IC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

WIFI Antenna:

Dongguan YiJia Electronics Communication Technology Co.,Ltd./ 多旋翼机巢二代
/YJI01.005.117.101A:

3.8 [dBi@2.4-2.5GHz](#)

-0.2 [dBi@5.15-5.18GHz](#)

0.3[dBi@5.745-5.825GHz](#)

Image transmission Type 1:**MINI Fakra :**

Dongguan YiJia Electronics Communication Technology Co.,Ltd./ YJI01.005.122.304A:

3.2 dBi@550-690MHz

0.9 dBi@1420-1510MHz

4.2 dBi@2.4-2.5GHz

3.6 [dBi@5.154-5.246GHz](#)

4.7 [dBi@5.738-5.839GHz](#)

Image transmission Type 2:**MINI Fakra :**

Dongguan YiJia Electronics Communication Technology Co.,Ltd. / YJI01.005.122.310A:

3.3 dBi@904-926MHz

2.4 dBi@1420-1510MHz

4.2 dBi@2.4-2.5GHz

3.5 [dBi@5.154-5.246GHz](#)

4.9[dBi@5.738-5.839GHz](#)

RTK Antenna:**MINI Fakra:**

Shenzhen Kinvey Communication Technology Co., Ltd./ PM391

BDS: B1/B2/B3

GPS: L1/L2/L5

GLONASS: L1/L2/L3

GALILEO: E1/E5a/E5b/E6L-BAND

Gain: ≥ 5.5 dBi