

## User Manual

### General Specification [for Wireless Communication Module]

#### Information on the equipment

|                                                            |                                                                                                                                                                                                                                                          |                                                                                             |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Equipment identification                                   | Wireless communication module                                                                                                                                                                                                                            |                                                                                             |
| Model No. (Type designation)                               | J20H106                                                                                                                                                                                                                                                  |                                                                                             |
| Equipment Type                                             | <input type="checkbox"/> Transmitter <input type="checkbox"/> Receiver <input checked="" type="checkbox"/> Transceiver                                                                                                                                   |                                                                                             |
| Frequency of Operation (2.4GHz)                            | 2402MHz to 2480MHz (Bluetooth)<br>2412-2462MHz:11ch   (Wireless LAN)                                                                                                                                                                                     |                                                                                             |
| Frequency of Operation (5GHz)                              | W52: 36~48ch (5180 ~ 5240MHz)<br>W53: 52~64ch (5260 ~ 5320MHz)<br>W56: 100~144ch (5500 ~ 5720MHz)<br>W58: 149~165ch (5745 ~ 5825MHz)                                                                                                                     |                                                                                             |
| Frequency of Operation (6GHz)<br>(High Power setting only) | U-NII-5: 1~93ch (5955 ~ 6415MHz)<br>U-NII-6: 97~113ch (6435 ~ 6515MHz)<br>U-NII-7: 117~181ch (6535 ~ 6855MHz)<br>U-NII-7/8: 185ch (6875MHz)<br>U-NII-8: 189~229ch (6895 ~ 7095MHz)                                                                       |                                                                                             |
| Type of modulation                                         | Bluetooth (BDR/EDR)<br>GFSK, $\pi/4$ DQPSK<br>8DPSK<br>Bluetooth (LE)<br>GFSK                                                                                                                                                                            | Wireless LAN<br>DBPSK, DQPSK, CCK,<br>BPSK, QPSK, 16QAM, 64QAM,<br>256QAM, 1024QAM, 4096QAM |
| Bandwidth                                                  | 79MHz (Bluetooth BDR/EDR) / 1MHz/2MHz (Bluetooth LE)<br>/ Less than 20MHz (WLAN 2.4G)<br>/ Less than 160MHz (WLAN 5G/6G)                                                                                                                                 |                                                                                             |
| Channel spacing                                            | 1MHz (Bluetooth BDR/EDR), 2MHz (Bluetooth LE)<br>/ 5MHz (WLAN 2.4G) / 20MHz (WLAN 5G/6G)                                                                                                                                                                 |                                                                                             |
| Antenna Gain                                               | 4.0 dBi: Bluetooth_1   (ANT3)<br>3.5 dBi: Bluetooth_2   (ANT4)<br>4.0 dBi: WLAN_2.4G_A (ANT1)<br>4.0 dBi: WLAN_2.4G_B (ANT2)<br>5.5 dBi: WLAN_5G_A   (ANT1)<br>5.0 dBi: WLAN_5G_B   (ANT3)<br>6.5 dBi: WLAN_6G_A   (ANT1)<br>6.8 dBi: WLAN_6G_B   (ANT3) |                                                                                             |
| Antenna Type                                               | PIFA/IFA                                                                                                                                                                                                                                                 |                                                                                             |

|                                    |                                                                                                                 |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Antenna connector Type             | U.FL                                                                                                            |
| EDR function                       | <input checked="" type="checkbox"/> with <input type="checkbox"/> without                                       |
| Emission designation<br>(ITU Code) | F1D/G1D (Bluetooth BDR/EDR), F1D (Bluetooth LE)<br>G1D/D1D (Wireless LAN)                                       |
| Mode of operation                  | <input type="checkbox"/> Simplex <input checked="" type="checkbox"/> Duplex                                     |
| Method of Frequency<br>Generation  | <input type="checkbox"/> Crystal <input checked="" type="checkbox"/> Synthesizer <input type="checkbox"/> Other |
| Power supply                       | +3.3V                                                                                                           |
| Operating voltage                  | +3.3V                                                                                                           |
| Operating temperature<br>range     | -5 ~ +85 °C                                                                                                     |

#### Purpose of use

- WLAN: Connect with Access Point and communicate over the Internet
- BT: Communicate with Wireless Controller

**Application conditions: Mobile – 20 cm from a person's body**

**Modules can only be used in a host for the conditions that it was granted for. To be used in any other way than granted, such as mobile to portable or with other transmitters simultaneously, requires additional evaluation, testing, or testing and Class 2 permissive change.**

**This is Limited modular approval as this module is limited to installation by the grantee into our host systems.**

**This module is certified as limited modular approval as it does not have its own power supply regulator, therefore regulated 3.3V must be supplied by a host device using voltage regulator, e.g. RT5784 or equivalent.**

**There is a minimum separation distance of 20 cm (or possibly greater than 20 cm) between the antenna radiating structures and nearby persons.**

**Client device (per definition in 47 CFR § 15.202) is limited to indoor locations, does not connect directly to the internet nor to other clients.**

**No vehicular use, except large aircrafts above 10000 ft.**

**Host product manufactures must install the module in compliance with the items described in the Integration Instructions.**

**[for FCC]**

**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.**

#### **FCC CAUTION**

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

**Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.**

**This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.**

**[for ISED]**

**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.**

**L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :**

- 1. L'appareil ne doit pas produire de brouillage;**
- 2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.**

**5150-5350 MHz band is restricted to indoor operation only.**

**La bande 5150-5350 MHz est restreinte à une utilisation à l'intérieur seulement.**

**Devices shall not be used for control of or communications with unmanned aircraft systems.**

**Les dispositifs ne doivent pas être utilisés pour commander des systèmes d'aéronef sans pilote ni pour communiquer avec de tels systèmes.**