

# User Manual

Product: WiFi+Bluetooth 5.2 System on Module

Manufacturer: TechNexion Ltd.

Manufacturer Address: 16F-5, No. 736, Zhongzheng Road, ZhongHe District, 23511, New Taipei City, Taiwan

Model: PIXI-IW416

For Original Equipment Manufacturer integration only – this device cannot be sold to the general public

FCC ID :2AKZA-IW416

IC:22364-IW416



## General Specifications

Form Factor	PIXI 16mm x 12mm x 1.0mm Wireless SIP Module
MCU	NXP IW416
WLAN	IEEE 802.11 a/b/g/n
Bluetooth	Bluetooth 5.2 BDR/EDR/BLE
Frequency Range	Bluetooth: 2042MHz ~ 2480MHz 802.11b/g/n HT20: 2412MHz ~ 2472MHz 802.11n HT40: 2422MHz ~ 2462MHz 802.11a : 5180MHz ~ 5825MHz 802.11n HT20: 5180MHz ~ 5825MHz 802.11n HT40: 5190MHz ~ 5795MHz
Antenna	1x MHF4 connector
	PIFA antenna 2.4G Gain: 2.54 dBi 5G Gain: 3 dBi
Antenna	Dipole antenna 2.4G Gain: 4 dBi 5G Gain: 6 dBi
Host Interface	WLAN: SDIO 3.0 BT: UART
Voltage	Input supply for host I/O: 3.3V
Signaling	WIFI control function through to SDIO interface
	BT control function through to UART interface
Environment Support	Operating Temperature: -40~85°C
	Storage Temperature: -55~125°C

## **User Manual with Statement required**

### **FCC Statement:**

FCC 15.119:

This device complies with Part 15 of FCC Rules. Operation is Subject to following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received including interference that cause undesired operation.

FCC 15.105:

This equipment has been tested and found to comply within 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 different circuit from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.
- 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

## **Modular Approval**

### **OEM INTEGRATION INSTRUCTIONS:**

This device is intended only for OEM integrators under the following conditions: 1) The module must be installed in the host equipment such that 20 cm is maintained between the antenna and users, and 2) the transmitter module may not be co-located with any other transmitter or antenna. As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

### **IMPORTANT NOTE:**

In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization for this module in combination with the host equipment is no longer considered valid and the FCC ID of the module cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

### **USERS MANUAL OF THE END PRODUCT:**

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.

### **LABEL OF THE END PRODUCT:**

The final end product must be labeled in a visible area with the following  
" Contains TX FCC ID: 2AKZA-IW416

**IC Statement:**

RSS-Gen Issue 4 8.4

This device complies with Industry Canada's licence-exempt RSSs.

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.

Le présent appareil est conforme aux CNR d'Industrie 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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

**Co-located**

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet appareil et son antenne (s) ne doivent pas être situés ou fonctionner en conjonction avec une autre antenne ou émetteur.

**RSS-GEN 8.3 transmitters equipped with detachable antennas**

This radio transmitter (identify the device by certification number) has been approved by Industry Canada to operate with the antenna types Antenna gain information: Dipole ANTENNA :4 dBi (2.4GHz),6 dBi(5GHz) and FPC ANTENNA 2.5 dBi (2.4GHz),3 dBi(5GHz) listed with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Cet émetteur radio (identifiez le dispositif par numéro de certification) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne Informations sur le gain d'antenne: ANTENNE Dipolaire: 4 dBi (2,4 GHz), 6 dBi (5 GHz) et ANTENNE FPC 2,5 dBi (2,4 GHz), 3 dBi (5 GHz) avec le gain maximal admissible indiqué. Les types d'antennes non inclus dans cette liste, ayant un gain supérieur au gain maximum indiqué pour ce type, sont strictement interdits pour cet appareil.

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(i) the device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems; (iii) for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

(i) l'appareil pour fonctionner dans la bande 5150-5250 MHz est réservé à une utilisation en intérieur afin de réduire les risques d'interférences nuisibles à la co-canal systèmes mobiles par satellite; (iii) pour les appareils avec antenne (s) détachable, le gain d'antenne maximal autorisé pour les appareils dans la bande 5725-5850 MHz doit être telle que l'équipement satisfait encore la pire limites spécifiées pour le point-à-point et non point-à-point, le cas échéant; opération et

Devraient également être informés les utilisateurs que les radars à haute puissance sont désignés comme utilisateurs principaux (c.-à-utilisateurs prioritaires) des bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient provoquer des interférences et / ou endommager les appareils LE-LAN.

**IC Radiation Exposure Statement:  
mobile device**

This equipment complies with IC RSS-102 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.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC RSS-102 établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

**Modular Approval**

OEM integrator is still responsible for testing their end product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.). **IMPORTANT NOTE:** In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the IC authorization is no longer considered valid and the IC No. cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate IC authorization.

L'intégrateur OEM est toujours responsable de tester son produit final pour toutes les exigences de conformité supplémentaires requises avec ce module installé (par exemple, les émissions des appareils numériques, les exigences des périphériques PC, etc.).

**REMARQUE IMPORTANTE :** dans le cas où ces conditions ne peuvent pas être remplies (par exemple, certaines configurations d'ordinateurs portables ou la colocalisation avec un autre émetteur), l'autorisation IC n'est plus considérée comme valide et le numéro IC ne peut pas être utilisé sur le produit final. Dans ces circonstances, l'intégrateur OEM sera chargé de réévaluer le produit final (y compris l'émetteur) et d'obtenir une autorisation IC distincte.

### **End Product Labeling of Modular**

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following:

“Contains transmitter module IC: IC:22364-IW416

Ce module émetteur est autorisé uniquement pour une utilisation dans un appareil où l'antenne peut être installée de telle sorte qu'une distance de 20 cm puisse être maintenue entre l'antenne et les utilisateurs. Le produit final doit être étiqueté dans une zone visible avec ce qui suit :

"Contient le module émetteur IC : IC:22364-IW416

CAN ICES-003 (B) / NMB-003 (B)

Hereby, TechNexion declares that the radio equipment type PIXI-IW416 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

<https://www.technexion.com/products/connectivity/pixi-iw416/>

5GHz band (W52, W53): Indoor use only (except communicate to high power radio)