IXM WIFIBT

Internal User Guide

Rev. 0.3

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1. Introduction

IXM WIFIBT, Model Number IXM010 is WiFi Bluetooth module, providing IEEE 802.11 b/g/n and BT 4.0 functionality.

It is designed and manufactured by Invixium Access Inc., to provide additional connectivity to Company's biometric fingerprint readers (hosts) from IXM SENSE and IXM TOUCH families. It is not available to the third parties, and it is assembled during the production of IXM SENSE and IXM TOUCH family members.

Any other use of the IXM WIFIBT makes all certifications involved null and void, and is strictly prohibited.

This User Guide is Internal, targeting crew in Production, QA, and Technical Support of the Invixium Access Inc.

IXM WIFIBT is designed around JorJin IC WG7311.

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2. Basic Operation

Invixium Access Hosts are running application on the top of Android Jelly Bean OS.

Configuration of the IXM WIFIBT module is not different from the configuration of the similar modules under Windows, Linux, or Android.

Configuration can be done three ways:

- Using Invixium Web-based application IXM WEB (for both, IXM TOUCH, and IXM SENSE families of devices)
- Using Touchscreen menu on IXM TOUCH family of devices
- Using VNC Viewer on IXM SENSE family of devices, that emulates touchscreen menu available on IXM TOUCH family of devices.

For the testing in Production, the IXM Tester tool, configures and tests WIFIBT module automatically, regardless of the Host Type.

3. Pinout and Signal Description

Pin Number	Signal Name	Description
1	SDIO_D3	WLAN I/F
2	SDIO_D2	WLAN I/F
3	SDIO_D1	WLAN I/F
4	SDIO_D0	WLAN I/F
5	GND	
6	SDIO_CLK	WLAN I/F
7	GND	
8	SDIO_CMD	WLAN I/F
9	WLAN_IRQ	WLAN I/F
10	WLAN_EN	WLAN I/F ENABLE
11	BT_EN	BLUETOOTH ENABLE
12	GND	
13	UART_TXD	BLUETOOTH INTERFACE
14	UART_RXD	BLUETOOTH INTERFACE
15	UART_RTS	BLUETOOTH INTERFACE
16	UART_CTS	BLUETOOTH INTERFACE
17	GND	
18	1.8V	
19	GND	
20	3.3V	

Logical signal levels are LVTTL.

The temperature range for IXM WIFIBT:

-40C to +85C

4 Regulatory Information

4.1. FCC Interference Statement

We, Invixium Access Inc. #5-205 Riviera Drive, Markham, ON Canada, declare under our sole responsibility that the product IXM WIFIBT (Wireless LAN and Bluetooth module) complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

1. The device may not cause harmful interference, and
2. The device must accept any interference received, including the interference that may cause undesired operation.

4.2. FCC Warning

This equipment has been tested and found to comply with the limit 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. The equipment generate, use, 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, with 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 methods:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult a dealer or an experienced radio/TV technician for help.

For product available in the USA/Canada market, only channel 1~11 can be operated.

Selection of other channels is not possible.

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4.3. FCC Caution

Changes or modifications NOT EXPLICITLY APPROVED by Invixium Access Inc, could void the user's authority to operate the equipment.

This device and its antenna must not be co-located with any other transmitters except in accordance with FCC multi-transmitter product certification procedures.

4.4. FCC RF Radiation Exposure Statement

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

4.5 Conditions for OEM Integrators

1) The antenna must be installed such that 20 cm distance is maintained between the antenna and user
2) The transmitter module may not be co-located with any other antenna or transmitter, except in accordance with FCC multi-transmitter product certification procedures.
3) PCB antenna with the 2 dBi gain was verified in the conformity testing. Radiated transmit power must be equal or lower than that specified in the Equipment Authorization. A separate approval is required for all other antenna types, or higher gain antenna.

As long as the 3 conditions are met, further transmitter tests will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance required with this module installed.

IMPORTANT NOTE:

In the event that those conditions cannot be met, then the FCC authorization is no longer considered valid, and the FCC ID cannot be used on the final product. In this circumstances the OEM integrator will be responsible for re-evaluation end-product (including the transmitter) and obtaining a separate FCC authorization.

4.6. End Product Labeling

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

“Contains FCC ID: S38-WIFIBT”.

The grantee’s FCC ID can be used only when all FCC compliance requirements are met.

4.7. Manual Information to the End User

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 shown in this manual.

4.8. Industry Canada Radio Certification

This device complies with Industry Canada license-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.

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.

For products available in the USA/Canada market, only channel 1~11 can be operated.
Selection of other channels is not possible.
Pour les produits disponibles aux États-Unis / Canada du marché, seul le canal 1 à 11 peuvent être exploités. Sélection d'autres canaux n'est pas possible.

This device and its antenna must not be co-located with any other transmitters except in accordance with IC multi-transmitter product procedures.

Refering to the multi-transmitter policy, multiple-transmitter(s) and module(s) can be operated simultaneously without reassessment permissive change.
Cet appareil et son antenne (s) ne doit pas être co-localisés ou fonctionnement en association avec une autre antenne ou transmetteur.

4.9. Industry Canada RF Radiation Exposure

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 établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20cm de distance entre la source de rayonnement et votre corps.

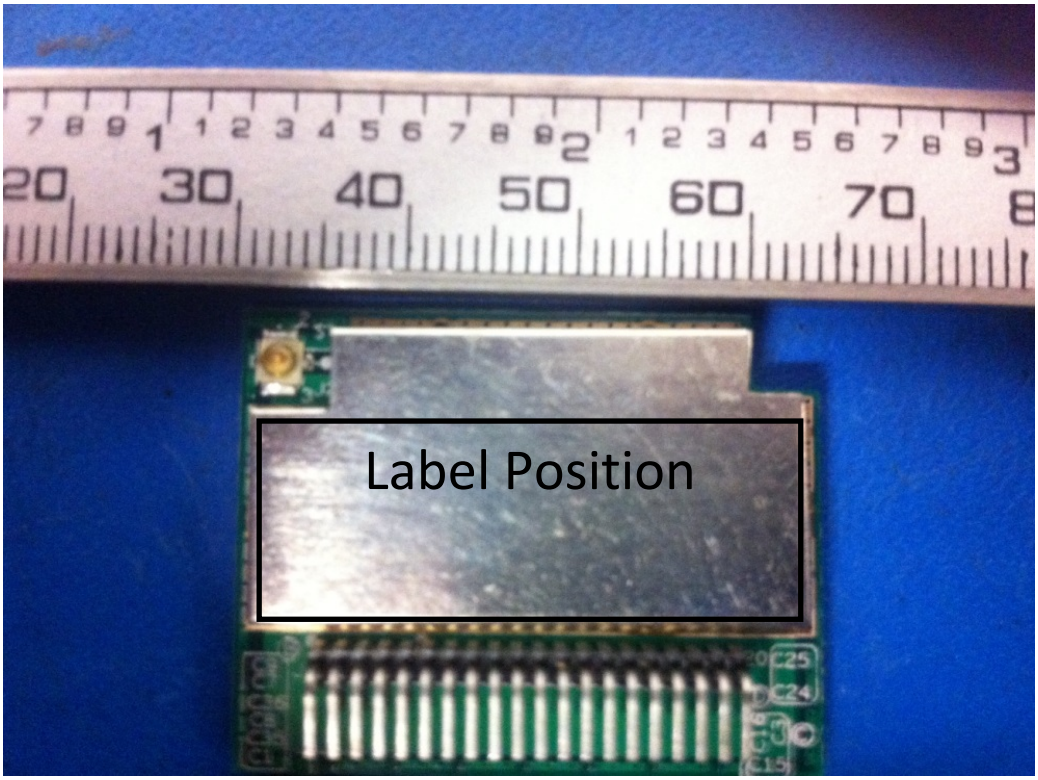
4.10. Industry Canada Detachable Antenna Statement

This radio transmitter IC: 10891A-WIFIBT, has been approved by Industry Canada to operate with antenna type listed below, with maximum permissible gain indicated.

Antenna types not included in the list, having a gain greater than maximum gain indicated for that type of antenna, are strictly prohibited for use with this device.

Manufacturer	Model #	Part #	Impedance	Gain
Centurion	NanoBlue-IP04	MAF94045	50 Ohm	2 dBi

5. Labeling Requirements



The device label will be affixed on the shield.

The label content:

IXM WIFIBT
IXM010
FCC ID: S38-WIFIBT
IC: 10981A-WIFIBT

Host device has to include following statements into the device label:

“Contains FCC ID: S38-WIFIBT”
“Contains IC: 10891A-WIFIBT”