User's manual

HS6620WC/Device

V1.0

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IMPORTANT SAFETY INSTRUCTUIONS

Please read and observe all warnings and instructions given in this manual and those marked on the unit before use of the unit.

⚠ DANGER

- ★ Avoid direct contacts to water, moisture, any sorts of beverages, excessive heat and magnetic sources.
- ★ Do not handle the unit in with wet hands, especially when plugging or unplugging, to avoid electric shocks.

⚠ WARNING

- ★ Do not disassemble, modify, tamper or repair the unit yourself. Refer all servicing to qualified service personnel.
- ★ Do not drop or expose the unit to excessive shock.
- ★ Keep the device out of direct sun light, wind, high-humidity and dusts.
- ★ Plug in USB Transmitter properly. If reversely plugged, that may cause harmful damages.
- ★ Do not place the unit on hot area or block the ventilator of the unit to avoid overheat.

⚠ CAUTION

- ★ Do not relocate the unit while in use. That may cause malfunctioning of the unit.
- ★ Use the correct power source only.
- ★ Never place the unit or AC adaptor on a heat sensitive surface
- ★ Never allow any liquids to spill into any part of your product, and never expose the product to rain, water, seawater or moisture.
- ★ Never operate the unit during a thunderstorm.

FCC information

The following information must be included in the User Manual for the Final End Product (Host Product):

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.
This device is authorized under Title 47 CFR 15.519 (the FCC Rules and Regulations).
The operation of this device is subject to the following restriction:
The changes or substitutions of the antennas which are furnished with the device is prohibited.
UWB devices may not be employed for the operation of toys. Operation onboard an aircraft, a ship or satellite is prohibited.

UWB devices operating under the provisions of this section must be hand held, i.e.,they are relatively small devices that are primarily hand held while being operated and do not employ a fixed infrastructure.

LABEL OF THE END PRODUCT:

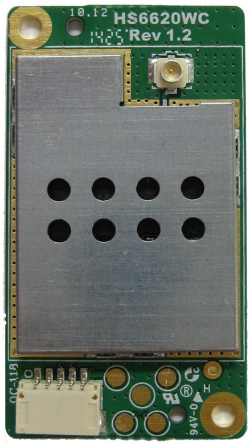
The final end product must be labeled in a visible area with the following

Contains FCC ID: 2ACIKHS6620WC

This device complies with Part 15 of 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.

A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgement of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

1. Package Components



RF module



Anti-shielding bag



Driver CD



Supplied antenna

2. How to install the HS6620WC?

2.1 UWB RF module applications

This is the UWB module for OEM usage in the application of high speed data transmission. This module is one side component compact module which can be put on the any PCB board. This module is used primarily inside devices as like set-top box, wireless monitor or A/V receiver box for wireless connection of A/V signal and data line as like USB signal.

2.2 Interface signals

This module is based on USB 2.0 interface. Pins of connector have USB and GPIO signals and power.

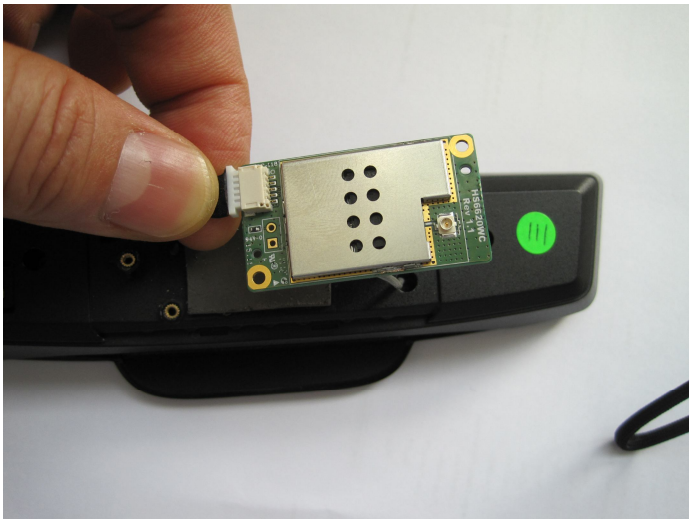
GPIO signals can be programmed for I2C signal line for device control. Power 3.3V is supplied to the module. In the module, 1.2V, 2.4V DC are made for the circuit and 3.3V is used for I/O part. The power consumption is about 1W.

2.3 Module Installation

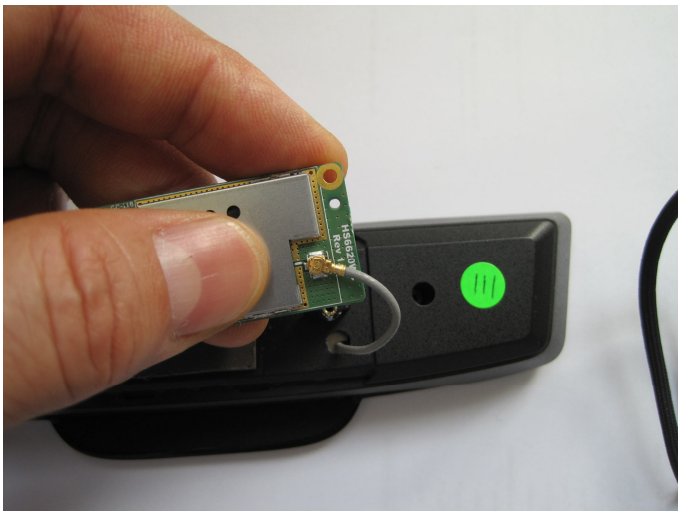
The mother board which is installed with the UWB module should have nut stub or and latch parts.

This module is half size mini-card and the connector and latch on the mother board should be spaced with the distance for half size miniCard.

The installation procedure is as follows(in the wireless USB camera)

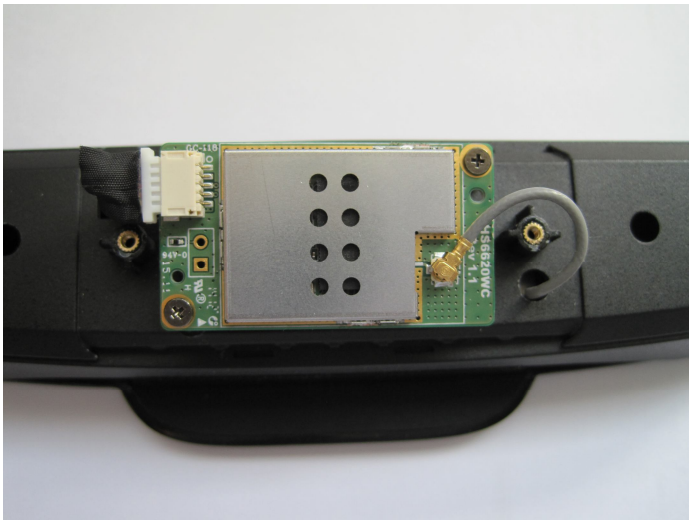


plug 5pin connector cable as the picture.



plug antenna U.FL connecter and place the antenna cable in safe from bolt hole.

(* only approved antenna should be used and other antenna will be required additional testing and FCC equipment approval.)



Two bolts should be put to fix the module .

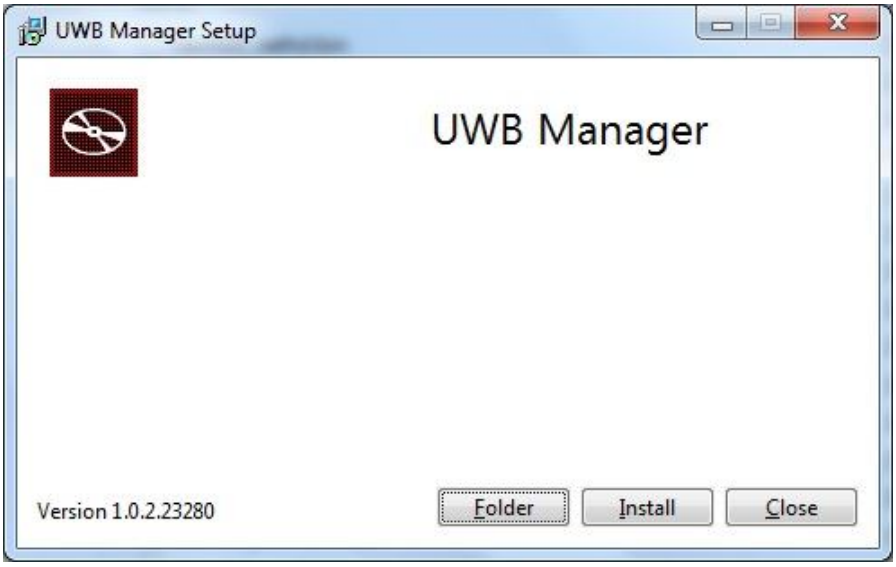
3. S/W installation

This module needs Driver installation in PC side. The S/W in CD includes Wireless connection manager s/w and driver for HS6620WC**.**

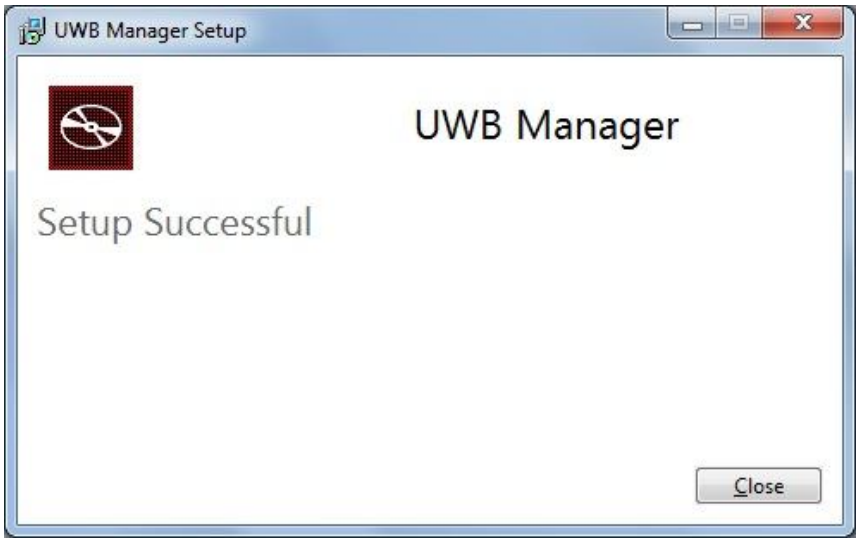
- Put the CD to computer CD driver which is provided.



- Click the installation program in the CD
- Install Wireless USB driver. Click Install.



- Click the finish and complete the wireless manager program.

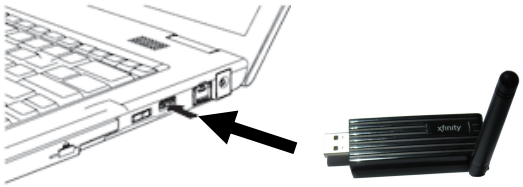


- Reboot the computer after finishing the installation.

4. Connecting Wireless USB dongle to USB port

You need to use Wireless USB dongle to run **HS6620WC.**

- Plug the USB dongle to the USB port in computer.

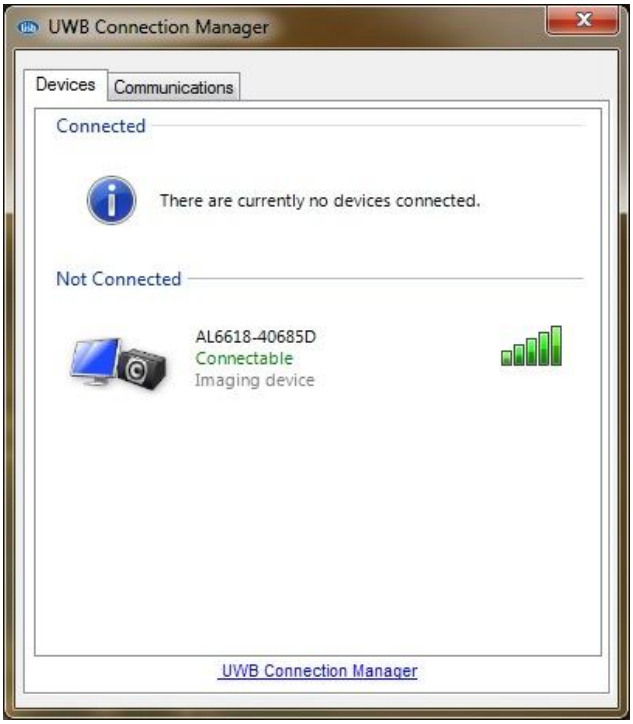


NOTE: you can use USB extension cable if your computer is desktop PC. Be careful there is no object between USB dongle and receiver.

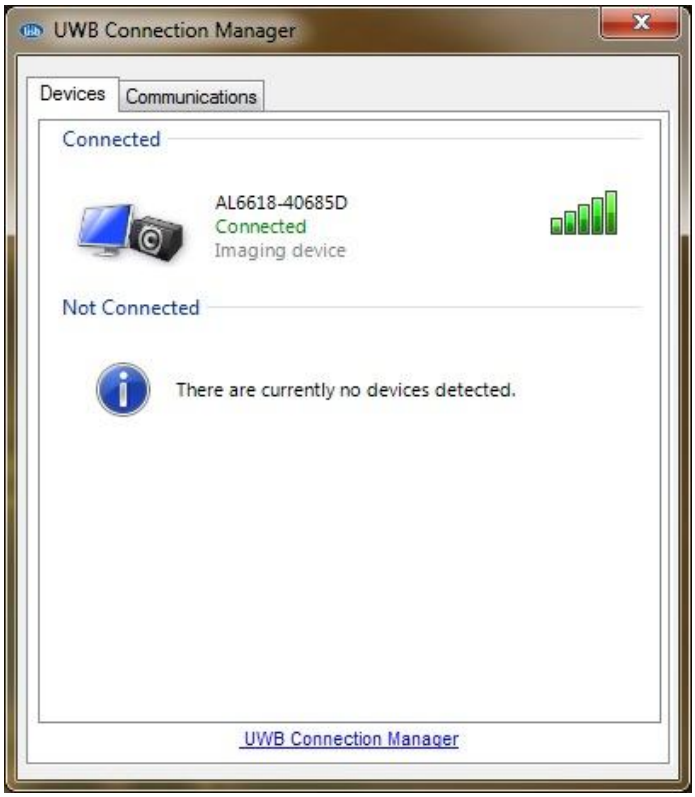
- New hardware device installation message is showed in the tray. Please wait until completing of the installation.
- If new device installation is completed, click the "wireless Connection Manager" for running the program. Then you can see the connectable monitors.



(Wireless Connection Manager icon)



If you select and click the monitor device and it becomes Connected Monitor. If you want automatic connection, click the right button of mouse and select "Set as default".



5. Cautions

This device uses ultra high frequency radio. Therefore if there's an object like concrete wall or furniture etc, between USB dongle and receiver device, the radio performance will be decreased much. Any obstacle objects should not be between USB dongle and receiver. The operating range is 5~10m and it can be varied according the environment.

6. HARDWARE SPECIFICATIONS

6.1 GENERAL

Wireless circuit compatible with IEEE 802.15.3a standard and provide maximum speeds up to 480 Mbps.

6.2 PRODUCT CHACTERISTICS

The HS6620WC is designed for UWB module product as device side. It provides the fast data transmission between user and UWB module device via wireless network. The device is intended for use in a wide range of system types with extensive communication and connectivity requirements.

Radio technology: Compliance with 802.15.3a standards
Operating frequency:

USA: 3.168 GHz ~ 4.752 GHz, BG1

Modulation Schemes: Multiband OFDM

Data rate (Mbps)

53.3, 80, 106.7, 160, 200, 320, 400, 480 in BG1, BG3, BG6.

6.3 ENVIRONMENT

6.3.1 Temperature

Operating Temperature Conditions

The product shall be capable of continuous reliable operation when operating in ambient temperature of 0℃ to +60℃.

Non-Operating Temperature Conditions

Neither subassemblies shall be damaged nor shall the operational performance be degraded when restored to the operating temperature when exposed to storage temperature in the range of -10℃ to +75℃.

6.3.2 Humidity

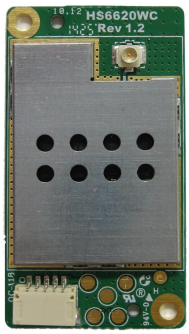
Operating Humidity Conditions

The product shall be capable of continuous reliable operation when subjected to relative humidity in the range of 10% and 85% non-condensing.

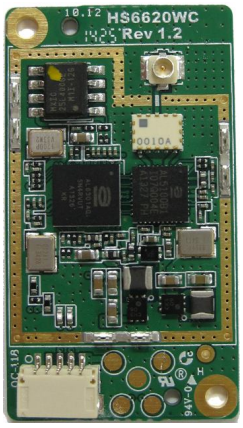
Non-Operating Humidity conditions

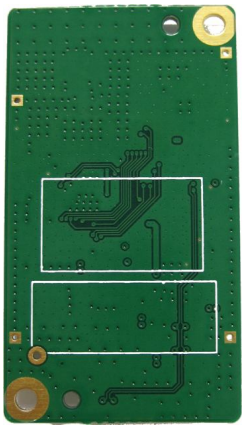
The product shall not be damaged nor shall the performance be degraded after exposure to relative humidity ranging from 5% to 90% non-condensing.

6.4 PRODUCT PHOTOGRAPH



PCB TOP and BOTTOM SIDE

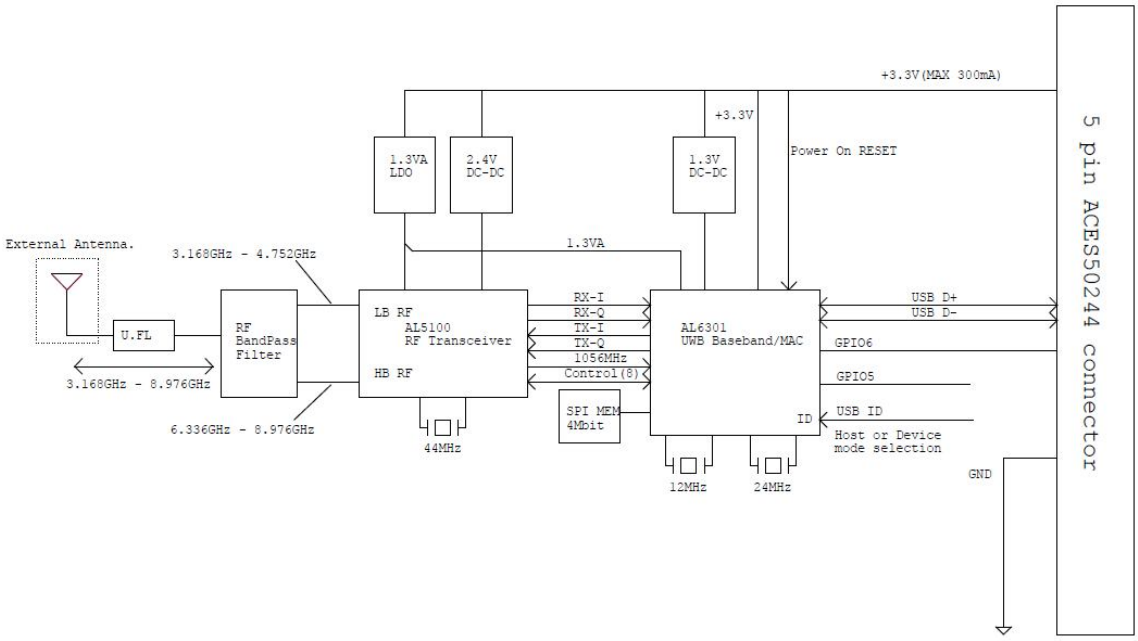




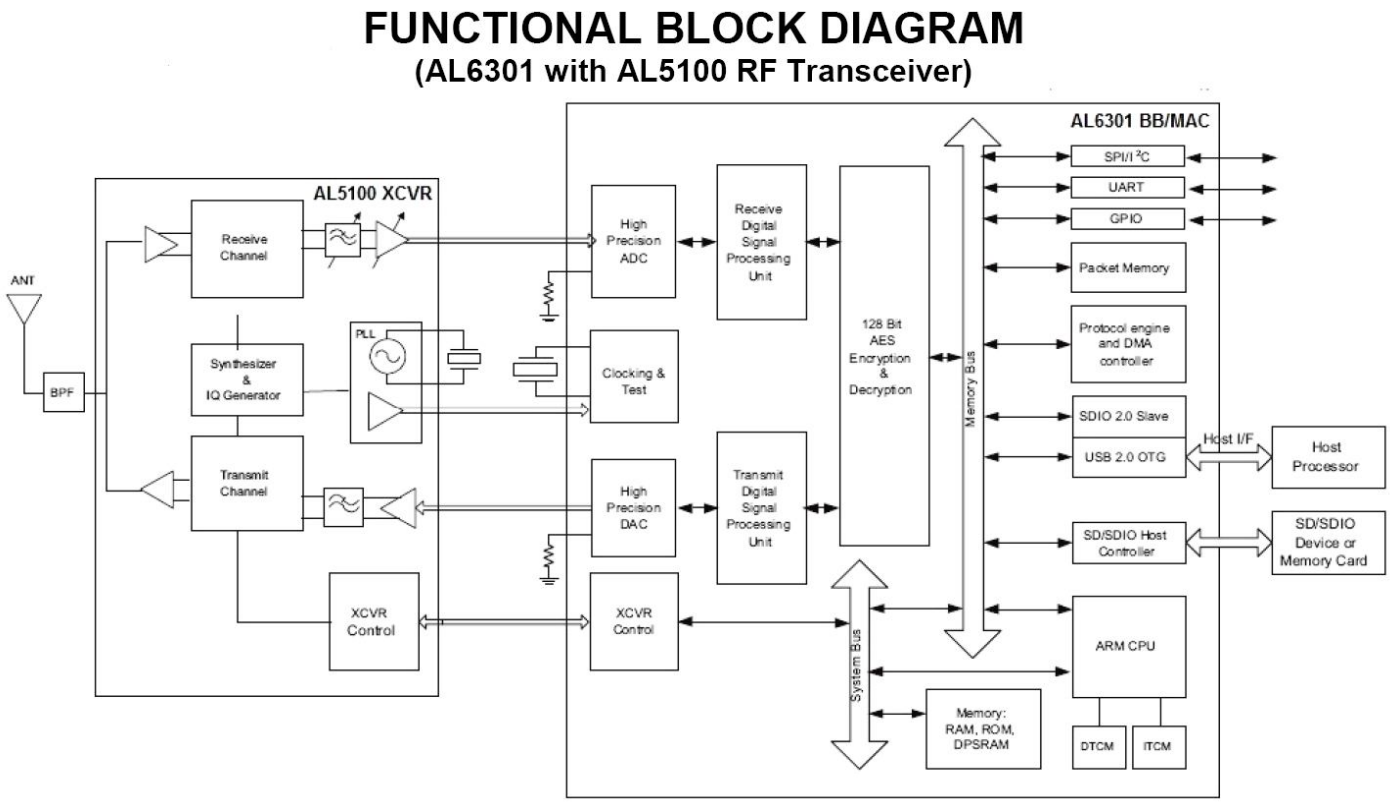
7. HARDWARE REQUIREMENTS

7.1 FUNCTIONAL BLOCK DIAGRAM

The hardware design of HS6620WC is based on AL6301/AL5100 reference circuit.



7.2 AL6301/AL5100 CHIPSET ARCHITECTURE



7.3 IO CONNECTOR PIN DEFINITION

HS6620(Rev1.1) ACES 5pin Connector Signal Assignments	
Function	Pin#
GND	**1**
GPIO_6	**2**
USB_D-	**3**
USB_D+	**4**
+3.3VDC	**5**

7.4 PERFORMANCE TEST RESULTS

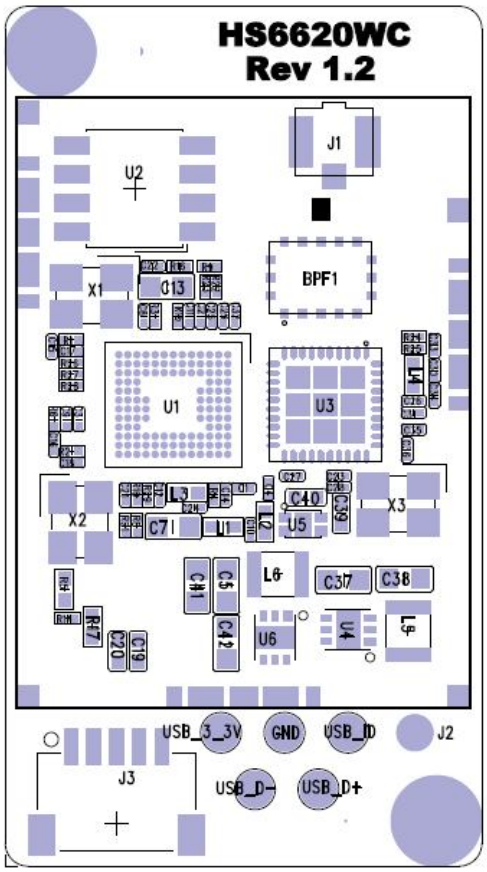
7.4.1 Current Consumption

Maximum Current Consumption (mA)			
Mode	**Stand-by**	**BG1**	
		Transmit	**Receive**
Current	160~280	185	210

8. DIMENSION INFORMATION

8.1 PCB DIMENSION

PCB Dimension (W x L): 21 x 38mm, Thickness 1.0mm ±0.1mm



9. HANSHIN IT CONTACT INFORMATION

Headquarter Address	#201 IT Venture Town, 694 Tamnip-dong, Yusung-gu, Daejeon, Korea
Headquarter Telephone Number	+82-42-9338507
Factory Address	#209 IT Venture Town, 694 Tamnip-dong, Yusung-gu, Daejeon, Korea
Factory Telephone Number	+82-42-9338507(Ext.26)

10. IC Statement

This UWB RF module apparatus complies with RSS-GEN.

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.

RF exposure

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

A minimum of 0.29 mm separation is required between the antenna and persons when the device is operating.

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

11. EU Limitations

This device may not be installed into road or rail vehicles.