

SBOT Technologies LLC

Table 1: characteristics of Integrated Antennas



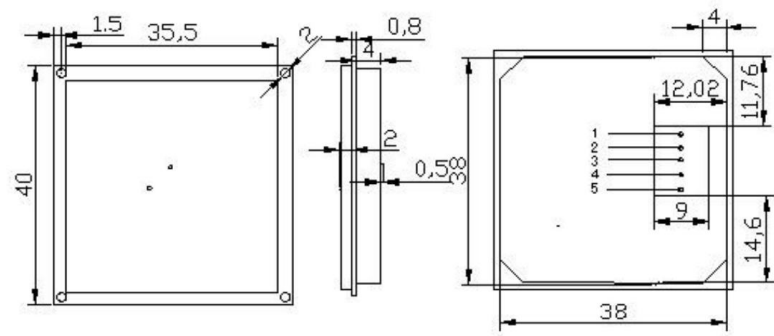
Excellent tag reading performance	<ul style="list-style-type: none">◆ Label recognition is sensitive and stable.◆ Stable identification distance is 1-2 meters.◆ Multi label recognition performance: >50 tab.◆ Label recognition speed: >50 Zhang / sec.
Thoroughly solve the problem of fever.	<ul style="list-style-type: none">◆ No external heat sink is needed.◆ Long term full load at room temperature does not cause fever.◆ Continuous current <200mA @ 3.5V (26 dBm Output).◆ Peak pulse current <260mA.
Excellent stability	<p>24 hours x, 365 days.</p> <p>The performance is affected by shell, electromagnetic environment and so on.</p> <p>Wide temperature design, extremely low temperature drift coefficient.</p>
Excellent consistency	<p>A typical example of consistency design.</p> <p>All choose the highest level components to ensure that all parameters are stable and consistent.</p>
Simple and efficient interface between software and hardware	<p>The peripheral circuit is very simple, single power supply and no external tantalum capacitor.</p>
Installation method	<p>Support 5pin WAFER installation.</p>

Table 2: electrical parameters

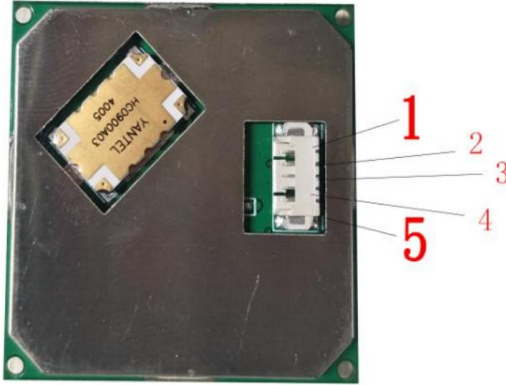
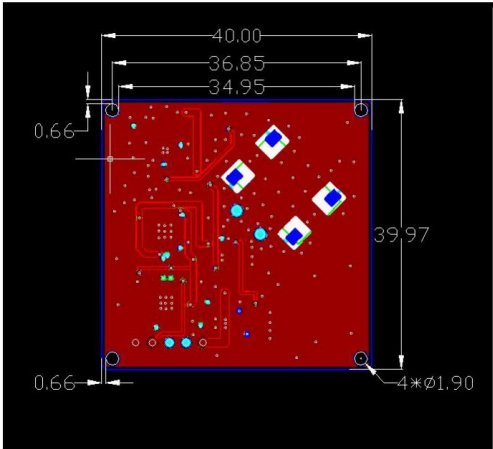
working voltage	DC 3.5V – 5 V
Standby current	<80mA (EN feet high level)
Sleep state current	<100uA (EN pin low level)
Working current	180mA @ 3.5V (26 dBm Output, 25 degree C). 110mA @ 3.5V (18 dBm Output, 25 degree C).
Start time	<100mS。
working temperature	- 20 °C - + 70 °C
Storage temperature	- 20 °C - + 85 °C
Working humidity	< 95% (+ 25 °C)
Air interface protocol	EPCglobal UHF Class 1 Gen 2 / ISO 18000-6C
Working spectrum range	902-928MHz
Work area support	US, Canada and other regions following U.S. FCC Europe and other regions following ETSI EN 302 208 Mainland China Japan Korea Malaysia Taiwan
Output power range	12-15 dBm
Output power accuracy	+/- 1dB
Output power flatness	+/- 0.2dB
Receiving sensitivity	< -70dBm
Peak speed of inventory labels	> 50 pieces / seconds
Label buffer	200 labels @ 96 bit EPC
Label RSSI	Support
communication interface	TTL Uart interface

Baud rate	115200 BPS (default and recommended) 38400bps
Heat dissipation mode	Air cooling (without external heat sink)

Table 3: connector PIN foot definition and structural drawings



Unit:mm



PIN	Definition	Explain
1	GND	GND
2	EN	High level enable module (>1.5V)
3	RXD	TTL level (3.3V)
4	TXD	TTL level (3.3V)
5	VCC	DC (3-5V)

FCC Statement:

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.

Any 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.

FCC Radiation Exposure Statement:

The module must be installed in the host equipment such that at least 20cm is maintained between the antenna and users' body; and if RF exposure statement or module layout is changed, then the host product manufacturer required to take responsibility of the module through a change in FCC ID or new application. The FCC ID of the module cannot be used on the final product. In these circumstances, the host manufacturer will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

The module can be used for mobile or portable applications with a maximum 1dBi antenna. The host manufacturer installing this module into their product must ensure that the final composite product complies with the FCC requirements by a technical assessment or evaluation to the FCC rules, including the transmitter operation. The host manufacturer 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.

This device is intended only for host manufacturers under the following conditions: The transmitter module may not be co-located with any other transmitter or antenna; The module shall be only used with the internal antenna(s) that has been originally tested and certified with this module. The antenna must be either permanently attached or employ a 'unique' antenna coupler.

As long as the conditions above are met, further transmitter test will not be required. However, the host manufacturer 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.).

This modular complies with FCC 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.

The module is limited to OEM installation only

The OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove or install module

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: Contains FCC ID: 2A3Q4-JRD-4035

ISED 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.

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.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur.

Please notice that if the ISED certification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains IC: 28078-JRD4035" any similar wording that expresses the same meaning may be used.

Veuillez noter que si le numéro de certification ISDE n'est pas visible lorsque le module est installé à l'intérieur d'un autre dispositif, alors l'extérieur du dispositif dans lequel le module est installé doit également afficher une étiquette se référant au module fermé. Cette étiquette extérieure peut utiliser des libellés tels que: «contient IC: 28078-JRD4035» toute formulation similaire qui exprime la même signification peut être utilisée.