

Wireless Module

Model Number: LA02306

Product Description

The LA02306 is a Leedarson-developed universal Bluetooth LE v5.3 smart module. It integrated the ATM3325-5LCAQK SOC in Package from the ATMOSIC company. It also integrates antenna on PCB which is designed for a variety of IOT products such as Power Drivers, Sensors, Plugs, Lighting, Switches, etc.

Product Specification

Model	Wireless Module
Product Name	LA02306
Standard	Support Bluetooth v5.3 core specification, 1Mbps, 2Mbps, 500Kbps and 125Kbps PHY rates
Interface	▪ Vertical Mount (Plug-In) 6 PWMs (GPIOs), 1 Available UART, 1 ADC (GPIO), 1 debug UART ▪ Horizontal (SMD) 6 PWMs (GPIOs), 1 Available UART, 3 ADCs (GPIOs), 1 debug UART, 1 GPIO
Modulation Method	GFSK
Frequency Band	2402~2480 MHz
Operating Voltage	3.3V±10%
Current Consumption	<1000mA
Antenna Type	PCB
Operating Temperature	-40 ~ 85°C ambient temperature
Storage Temperature	-40 ~ 125°C ambient temperature
Humidity	5 to 95 % maximum (non-condensing)

NOTICE:

- ◆please keep this product and accessories attached to the places which children can't touch.
- ◆do not splash water or other liquid onto this product, otherwise it may cause damage.
- ◆do not put this product near the heat source or direct sunlight, otherwise it may cause deformation or malfunction.
- ◆please keep this product away from flammable or naked flame.
- ◆please do not repair this product yourself. Only qualified personnel can be repaired.

FCC Statement

FCC Statement

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.

This equipment 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.

This module is intended for OEM integrators only. Per FCC KDB 996369 D03 OEM Manual v01r01 guidance, the following conditions must be strictly followed when using this certified module:

KDB 996369 D03 OEM Manual v01r01 rule sections:

2.2 List of applicable FCC rules

This module has been tested for compliance with CFR 47 FCC Part 15 B, CFR 47 FCC Part 15 C (15.247, DTS). It is applicable to the modular transmitter

2.3 Summarize the specific operational use conditions

The module is tested for standalone mobile RF exposure use condition. Any other usage conditions such as co-location with other transmitter(s) will need a separate reassessment through a class II permissive change application or new certification.

Further operation restrictions on the host product include:

*Prohibited for control of or Communications with unmanned aircraft systems.

This radio transmitter FCC ID: 2AB2Q-LA02306 has been approved by Federal Communications Commission to operate with the integrated PCB antenna. Use of any other antenna is strictly prohibited without filing an application for a new system-specific FCC ID.

2.4 The module complies with FCC Part 15.247 and applies for Single module approval.

2.5 Trace antenna designs: Not applicable – the antenna is integrated into the module and cannot be modified. See section 2.3.

2.6 RF exposure considerations

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

2.7 Antennas

Note 1: Use of other antenna types or the same type of antenna with higher gain than listed above must perform additional testing and appropriate permissive change approval.

Note 2: Additional testing/submission (C2PC) will be required if the device does not meet the antenna and RF exposure requirements.

Note 3: Contact GSD for additional guidance, if choose to use different antenna types or higher/lower gain antennas in the end system.

IMPORTANT: The final host product must have an integral antenna that is not removable by the end user.

Antenna Type and Antenna Gain:

BLE

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2402-2480	PCB Antenna	1.7

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following: “Contains FCC ID: 2AB2Q-LA02306”. The grantee's FCC ID can be used only when all FCC compliance requirements are met.

2.9 Information on test modes and additional testing requirements

This transmitter is tested in a standalone mobile RF exposure condition and any co-located or simultaneous transmission with other transmitters need class II permissive change re-evaluation or new certification.

2.10 Additional testing, Part 15 Subpart B disclaimer

This transmitter module is tested as a subsystem and its certification does not cover the FCC Part 15 Subpart B (unintentional radiator) rule requirement applicable to the final host. The final host will still need to be reassessed for compliance with this portion of rule requirements if applicable.

If all conditions above 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 requirements required with this module installed.

IMPORTANT NOTE: In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID 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.

2.11 Note EMI Considerations

The host manufacture is recommended to use D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional non-compliant limits due to module placement to host components or properties.

2.12 How to make changes

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

Canada Statement

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;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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: 10256A-LA02306" any similar wording that expresses the same meaning may be used.

l'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie Canada, précédé des mots « Contient un module d'émission », du mot «IC: 10256A-LA02306» ou d'une formulation similaire exprimant le même sens, comme suit

The device meets the exemption from the routine evaluation limits in section 6.6 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 6.6 de RSS 102 et la conformité à l'exposition de RSS-102 RF, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

Antenna Type and Antenna Gain:

BLE

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2402-2480	PCB Antenna	1.7

Notice to OEM integrator

Must use the device only in host devices that meet the FCC/ISED RF exposure category of mobile, which means the device is installed and used at distances of at least 20cm from persons.

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

The end user manual shall include FCC Part 15 /ISED RSS GEN compliance statements related to the transmitter as show in this manual(FCC/ICanada statement).

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B, ICES-003.

Host manufacturer is strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host.

The use condition limitations extend to professional users, then instructions must state that this information also extends to the host manufacturer's instruction manual.

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

Any company of the host device which install this modular should perform the test of radiated & conducted emission and spurious emission etc. according to FCC Part 15C/RSS-247: 15.247 & 15.209 & 15.207 & RSS-247, 15B class B & ICES-003 requirement, only if the test result comply with FCC part 15C/ISED RSS: 15.247

and 15.209 & 15.207 & RSS-247 & RSS-Gen & RSS 102, 15B class B & ICES-003 requirement. Then the host can be sold legally.

This modular transmitter is only FCC authorized for the specific rule parts (47CFR Part 15.247) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification.

Host manufacturers are strongly recommended to confirm compliance with FCC/ISED requirements for the transmitter when the module is installed in the host.

Must have on the host device a label showing Contains FCC ID: 2AB2Q-LA02306 or IC: 10256A-LA02306.

Both FCC ID and IC ID are not to be placed on the host at the same time and only hosts going into the US can use the FCC ID and only hosts going into Canada can use the IC ID.

L'appareil doit être utilisé uniquement avec des appareils hôtes conformes à la catégorie d'exposition RF mobile FCC/ISED, ce qui signifie que l'appareil est installé et utilisé à une distance d'au moins 20 cm des personnes.

Cet émetteur ne doit pas être placé à proximité ni fonctionner avec une autre antenne ou un autre émetteur.

Le manuel d'utilisation doit inclure les déclarations de conformité à la partie 15 de la FCC/ISED RSS GEN relatives à l'émetteur, telles qu'elles sont présentées dans ce manuel (déclaration FCC/ICanada).

Le fabricant de l'hôte est responsable de la conformité du système hôte au module installé, conformément à toutes les autres exigences applicables, telles que la partie 15 B de l'ICES-003. Il est fortement recommandé au fabricant de l'hôte de confirmer la conformité de l'émetteur aux exigences FCC/ISED lors de l'installation du module dans l'hôte.

Les limites des conditions d'utilisation s'appliquent également aux utilisateurs d'affaires ; les instructions doivent donc préciser que ces informations s'appliquent également au manuel d'instructions du fabricant de l'hôte.

Ce module est modulaire et autonome. Si le produit final implique des conditions de transmission simultanées multiples ou des conditions de fonctionnement différentes pour un émetteur modulaire autonome dans un hôte, le fabricant de l'hôte doit consulter le fabricant du module pour connaître la méthode d'installation dans le système final.

Toute entreprise installant ce module doit effectuer le test d'émissions rayonnées et conduites, ainsi que d'émissions parasites, conformément aux exigences de la norme FCC Partie 15C/RSS-247 : 15.247, 15.209, 15.207, RSS-247, 15B classe B et ICES-003, uniquement si le résultat du test est conforme aux exigences de la norme FCC Partie 15C/ISED RSS : 15.247, 15.209, 15.207, RSS-247, RSS-Gen et RSS 102, 15B classe B et ICES-003. L'hôte peut alors être vendu légalement.

Cet émetteur modulaire est homologué par la FCC uniquement pour les parties spécifiques de la réglementation (47CFR Partie 15.247) mentionnées dans la certification. Le fabricant du produit hôte est responsable de la conformité à toute autre réglementation FCC applicable à l'hôte et non couverte par la certification de l'émetteur modulaire.

Il est fortement recommandé au fabricant de l'hôte de confirmer la conformité de l'émetteur aux exigences de la FCC/ISED lors de l'installation du module.

L'appareil hôte doit porter une étiquette indiquant « Contient l'identifiant FCC: 2AB2Q-LA02306 » ou « IC: 10256A-LA02306 ».

Les identifiants FCC et IC ne doivent pas être apposés simultanément sur l'hôte. Seuls les hôtes qui se rendent aux États-Unis peuvent utiliser l'identifiant FCC, et seuls ceux qui se rendent au Canada peuvent utiliser l'identifiant IC.