muRata LBAA0XV2DT LoRa Wi-Fi GNSS Module User Manual

Contents

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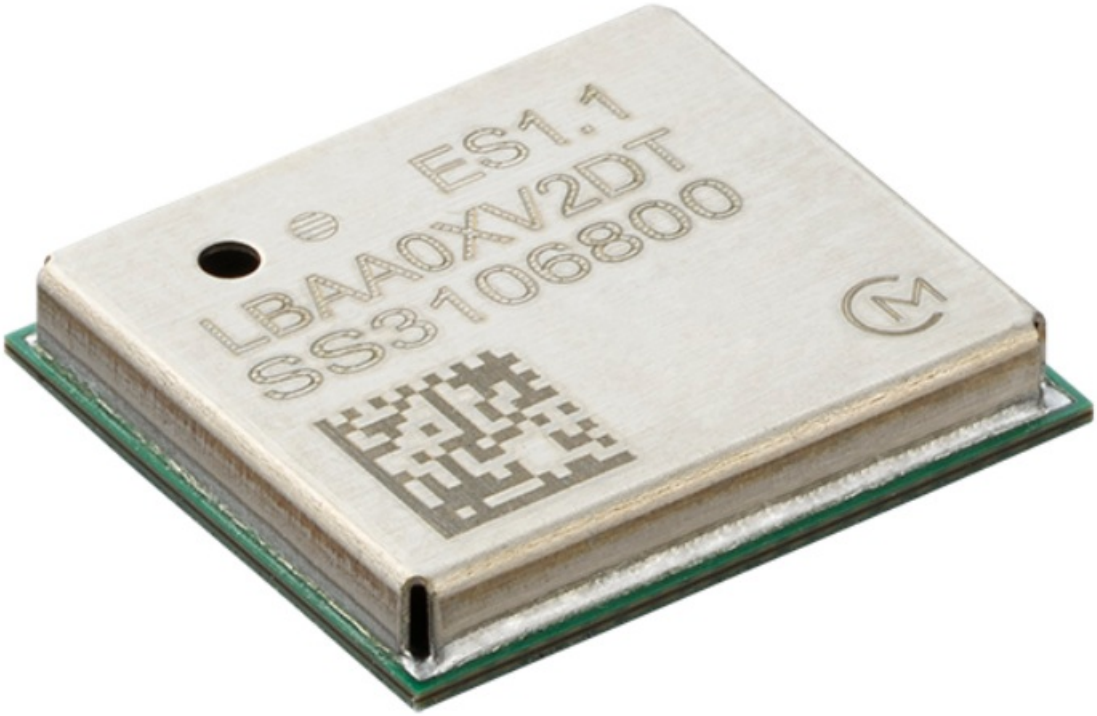


Product Information

The LBAA0XV2DT is a LoRa+Wi-Fi+GNSS module that has been FCC/ISED certified as Single Modular Approval.

The module has the following IDs:

- **FCC ID:** VPYLB2DT
- **IC:** 772C-LB2DT

This module has been approved by FCC to operate with specific antenna types that have the maximum permissible gain indicated. Antenna types not included in this list, with a gain greater than the maximum indicated, are strictly prohibited for use with this device. The module is certified to work with the Triband chip antenna by ignion, which has peak gains of 0.3dBi for LoRa, 3.6dBi for Wi-Fi, and 1.8dBi for GNSS.

- For more information on antenna application guidance, including placement and PCB drawing, please refer to the next pages of the manual or contact Murata for the DXF file.

The LBAA0XV2DT module complies with Part 15 of the FCC Rules and operates under the following conditions:

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

Installation and operation of this equipment should maintain a minimum distance of 20cm between the radiator and the user's body to comply with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

- If the FCC ID is not visible when the module is installed inside another device, the outside of the device must display a label referring to the enclosed module with wording such as "Contains transmitter module FCC ID:

VPYLB2DT” or “Contains FCC ID: VPYLB2DT”.

- The module is limited to installation in mobile or fixed applications according to FCC rule part 2.1091. Separate approval is required for all other operating configurations, including portable configurations, with respect to FCC rule part 2.1093.

This device also complies with Industry Canada licence-exempt RSS standard(s) and operates under the following conditions:

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

- Similar to FCC requirements, the equipment should be installed and operated with a minimum distance of 20cm between the radiator and the user’s body to comply with FCC/IC RSS-102 radiation exposure limits for an uncontrolled environment.
- If the Industry Canada certification number is not visible when the module is installed inside another device, the outside of the device must display a label referring to the enclosed module with wording such as “Contains transmitter module IC: 772CLB2DT” or “Contains IC: 772C-LB2DT”.

Product Usage Instructions

When using the LBAA0XV2DT module, please follow these instructions:

1. Ensure that you only use antenna types that have been certified and listed in the user manual. Antennas with a greater gain than indicated for that type are strictly prohibited.
2. Refer to the antenna application guidance section for information on antenna placement and the PCB drawing for antenna installation details.
3. If you require the DXF file for antenna application, please contact Murata.
4. Make sure that the FCC ID (VPYLB2DT) is visible when the module is installed inside another device. If not visible, the exterior of the device must display a label referring to the enclosed module with the proper wording.
5. Follow the FCC Statements and IC Statements provided in the user manual to ensure compliance with FCC and Industry Canada regulations.
6. Maintain a minimum distance of 20cm between the radiator and your body during installation and operation to comply with radiation exposure limits.
7. If you plan to use the module in a different operating configuration, such as a portable configuration, separate approval is required.

LoRa+Wi-Fi+GNSS Module User Manual

Part Number: LBAA0XV2DT

LBAA0XV2DT has been FCC/ISED certified as Single Modular Approval with the following IDs.

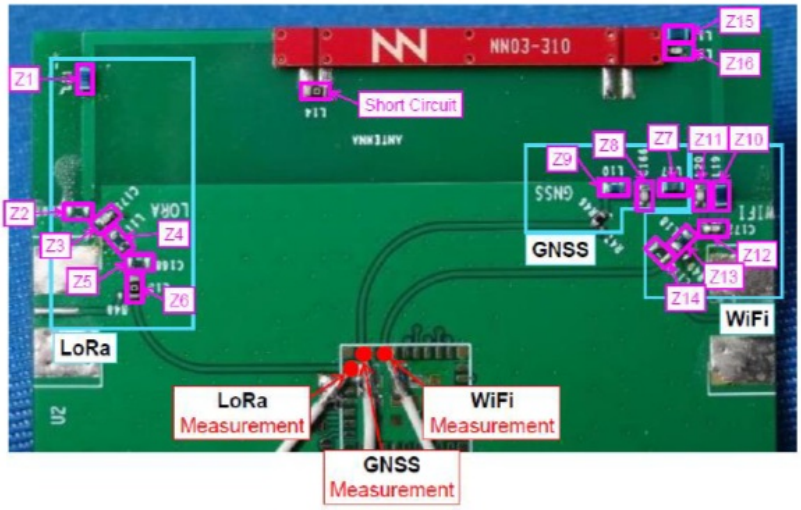
FCC ID: VPYLB2DT
IC: 772C-LB2DT

- The module is limited to OEM installation ONLY. The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.
- Therefore, the final host product must be submitted to Murata for confirmation that the installation for the module into the host is in compliance with regulations of FCC and IC Canada. Specially, if an antenna other than the model documented in the Filing is used, a Class 2 Permissive Change must be filed with the FCC.
- Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
- This module has been approved by FCC to operate with the antenna types 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. The following antenna has been certified in combination with the module.
- Refer to the next pages for the antenna application guidance.
- Triband chip antenna by ingoing with peak gains as 0.3dBi for LoRa, 3.6dBi for Wi-Fi, and 1.8dBi for GNSS;

Antenna Application Guidance

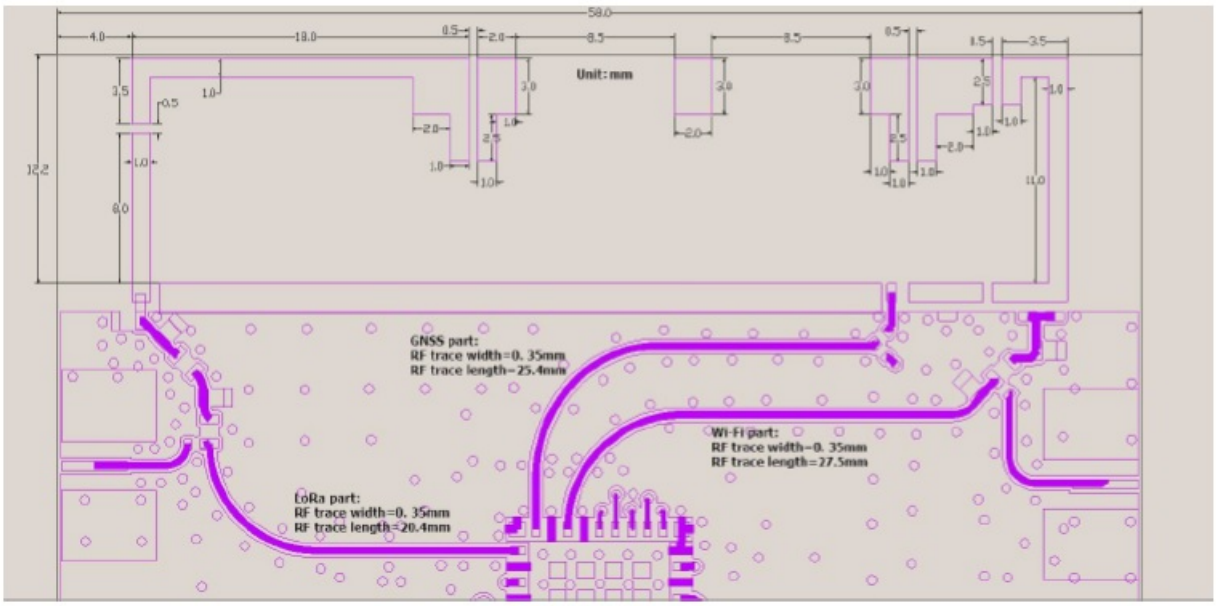
Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Z9	Z10	Z11	Z12	Z13	Z14	Z15	Z16
16nH	Open	3.0pF	13nH	Open	0ohm	10nH	2.2pF	2.3nH	8.4nH	1.0pF	0.1pF	3.6nH	Open	28nH	0.8pF

Size:1608 LQW18AN / Resistor | Size:1005 LQW15AN | Size:1005 GJM15



Antenna placement

Antenna Application Guidance



PCB drawing for the antenna
Contact Murata for the DXF file

FCC Statements

Please take attention that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance 20cm between the radiator & your body. When the FCC ID 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 "Contains transmitter module FCC ID: VPYLB2DT" or "Contains FCC ID: VPYLB2DT".

- 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

The module is limited to installation in mobile or fixed application according to FCC rule part 2.1091
The separate approval is required for all other operating configurations including portable configurations with respect to FCC rule part 2.1093.

IC Statements
This device complies with Industry Canada licence-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.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotopically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

- This equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between theradiator & your body.
- When the Industry Canada 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 be use wording ”Contains transmitter module IC: 772C-LB2DT” or “Contains IC: 772C-LB2DT”.

Documents / Resources

	muRata LBAA0XV2DT LoRa Wi-Fi GNSS Module [pdf] User Manual LBAA0XV2DT LoRa Wi-Fi GNSS Module, LBAA0XV2DT, LoRa Wi-Fi GNSS Module, Wi-Fi GNSS Module, GNSS Module

References

- User Manual