



Tractel BLE652-SA Bluetooth 4.2 Module User Manual

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Bluetooth 4.2 module (BLE only)
User manual



Original manual
Radio module "BLE652-SA" for product integration

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Specifications

1.1. RF specifications

Frequency range	2400 – 2483,5 MHz
Modulation	GFSK
Channels	40, from 2402 MHz to 2480 MHz
Frequency step between channels	2MHz
Bandwidth	1MHz
Baud rate	1Mbps

1.2. Physical characteristics

Physical dimensions (L x W x H):

- 14 x 10 x 2.1 mm

1.3. Supported antenna

#	Type	Peak Gain (dB)	Manufacture	Model
1	Ceramic chip monopole antenna – on board	0.5	AUX	AT3216-B2R7HAA

1.4. Firmware

This radio module is only compatible with authorized firmware images from Tractel®. It prevents unsigned firmware images from being deployed.

Regulations and standards

This radio module meets the requirements of the following Radio Equipment standards:

- FCC part 15 Radio Frequency Devices Subpart C Intentional Radiators
RSS-GEN & RSS-247 Low power license-exempt Radiocommunication devices

2.1. FCC Information – Federal Communication Commission Interference Statement 47 CFR Section 15.105(b)

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

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 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

2.2. No unauthorized modifications

CAUTION: This device may not be modified, altered, or changed in any way without signed written permission from Tractel®. Unauthorized modification may void the equipment authorization from the FCC and will void the Tractel® warranty.

2.3. FCC RF Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for the general population (uncontrolled exposure). End-users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter meets both portable “limb” and mobile limits as demonstrated in the RF Exposure Analysis. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except with module FCC ID: OVL-RF24GHZ and in accordance with FCC multi-transmitter product procedures

2.4. IC Information

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.
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 isotropically

radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This device complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment (uncontrolled exposure). End-users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter meets both portable “limb” and mobile limits as demonstrated in the RF Exposure Analysis and SAR test report. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except with module IC: 3619A-RF24GHZ.

Host product labeling

This module is considered as a component that will be operated in combination with the host product. Then, the final equipment still needs to re-confirm that the whole system complies with unintentional emission requirements. If the FCC ID is not visible when the module is installed inside the host, then the outside of this hosting product must also display a label referring to the enclosed module. In that case, the host the product must be labeled in a visible area with the following:

- “Contains Transmitter Module FCC ID: OVL-BL652”

Or

- “Contains FCC ID: OVL-BL652 ”

The statement warning for FCC and Canada RF radiation compliance and co-location should appear in the user manual of the host product.

The ISED certification label of a module shall be clearly visible at all times when installed in the host product; otherwise, the host product must be labeled to display the ISED certification number for the module, preceded by the word “contains” or similar wording expressing the same meaning, as follows:

- “Contains IC: 3619A-BL652”

Manual information to the End-User

The OEM integrator must 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 host product which integrates this module.

The end-user manual shall include all required regulatory information/warning as shown in this manual.

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Documents / Resources



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BL652, OVL-BL652, OVLBL652, BLE652-SA Bluetooth 4.2 Module, Bluetooth 4.2 Module