

Averia Beacon product description

Bluetooth LE accessory for an
Averia Collar device

The device leverage Bluetooth LE technology and works as a beacon for Averia Collar device

1. “Averia Beacon” design

Averia Beacon is designed using high quality materials and electronic components. The appearance of the device is given in Figure 1.1.



Figure 1.1. Assembled appearance of Averia Beacon. The black color is a sample, other colors are also possible.

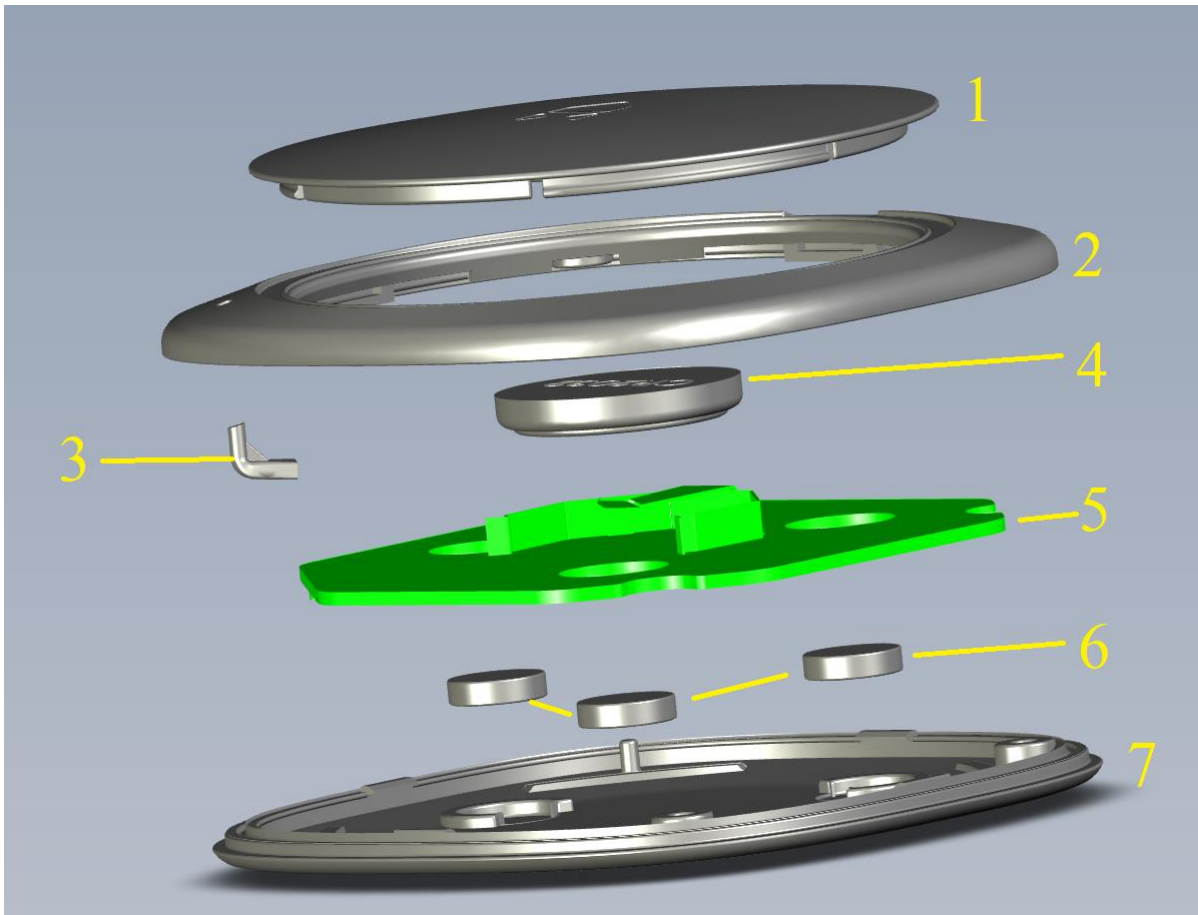


Figure 1.2. The explode schema of the BLE Beacon (1- Battery cover, 2- Top case, 3-silicone light guide, 4- CR2032 Li-Ion battery, 5- PCBA, 6- neodymium magnets 3 pcs, 7- Bottom case).

Averia Beacon consists of the following components:

- polycarbonate case with PCBA (Figure 1.2.) inside;
- Neodymium magnets which allow you to attach the device on a metal surface (Figure 1.2.);
- CR2032 Li-Ion battery;
- Silicone parts: light guide and silicone seal between Top and Bottom case parts and Battery cover and Top Case (is not shown here).

The assembled device will comply with the IP54 protection level.

The hardware consists of the following components:

- a Bluetooth Low Energy radio module for communication with a mobile device (smartphone, tablet, smart watch, etc.) and an internal PCB antenna;
- a set of temperature sensors;
- a removable CR2032 battery;
- a LED indicator which is located onto the PCBA.

2. Primary Application

Averia Beacon can be used as follows:

- Indoor positioning device – it helps the Averia Collar device to track its indoor location;
- The Averia Beacon may help Averia Collar to recognize its outdoor position much faster;
- Temperature monitor.

3. Technical Specifications of the device

Technical specifications of Averia Beacon are presented in Table 3.1.

Table 3.1. Technical specifications of Averia Beacon.

Radio module (Bluetooth Low Energy):	DA14531-00000FX2 (Renesas) /2.4 GHz <i>Compatible with Bluetooth® v5.1, ETSI EN 300 328 and EN 300 440 Class 2 (Europe), FCC CFR47 Part 15 (US) and ARIB STD-T66 (Japan)</i>
Temperature sensors	YES, integrated on the PCBA
Dimensions	65.1mm * 65.1mm * 9.3mm
Device weight	~50g.
Battery	CR2032 (Li-Ion, 3.0B, 220 mAh)
Moisture protection	IP54
Battery charge voltage	Not acceptable, the battery is NOT rechargeable and it will be replaced with a new one
Operating temperature	-30 ... +45 °C
Storage temperature	+20 ... +30 °C
AC/DC adaptor	Not acceptable
LED indicator	YES, on the PCBA

3.1 Bluetooth LE module

Bluetooth Low Energy (BLE) chip: DA14531-00000FX2.

Manufacturer: Renesas (Dialog Semiconductor)

FCC compliance: (<https://www.renesas.cn/us/en/document/rep/da14531-fcc-certification-test-report-qfn?language=en&r=1564826>)

BLE complies with specification: 5.1.

Maximum output power: 1.734dBm (class 2).

Antennas type: internal PCB antenna.

Delivery set

Device factory package includes:

- Averia Beacon – 2 pcs;
- User manual (QSG);
- Regulatory

FCC Warning:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this 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 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 0cm between the radiator and your body.