

Bluetooth[®] 4.0 Single Mode Low Energy Programmable Universal Sensor Fob **BLEfob[™] BR-FOB-SEN-LE4.0-S3A**

- **AT HOME. AT WORK. ON THE ROAD. USING BLUETOOTH LOW ENERGY WIRELESS TECHNOLOGY MEANS TOTAL FREEDOM FROM THE CONSTRAINTS AND CLUTTER OF WIRES IN YOUR LIFE.**
- FCC, IC, CE, RoHS, and Bluetooth[®] 4.0 Certified ISM 2.4GHz module.
- Utilizes the BR-LE4.0-S3A Single Mode Module with 256K Flash, 8K RAM.
- Over 100 meter (330 ft) line of site (LOS) distance with integrated antenna.
- Multiple sensor applications in one device: Vibration Alert, Temperature Alert, Garage Door Alert, Light Sensor Alert, Find Device, iBeacon.
- Compatibility with Bluetooth Low Energy Single & Dual mode devices.
- Small and convenient: can be placed on a key ring or clip on button for convenient use.
- Custom build options to populate only required features to reduce overall cost.
- Embedded Bluetooth Stack Protocols and Services include: GAP, GATT, SMP, ATT, L2CAP, BAS, DIS, IAS, LLS, TPS. As well as custom profiles for accelerometer, light, temperature, and over the air updates.



FEATURES

- 3-Axis, 12-bit accelerometer with selectable range of $\pm 2, 4, 8, 16g$
- 16-bit light sensor with selectable resolution and range of 1k, 4k, 16k, 64k
- 13-bit temperature sensor with range of -55°C to $+150^{\circ}\text{C}$ ($\pm 0.5^{\circ}\text{C}$)
- 1 12-bit ADC channel available on a test point
- 2 push buttons and 2 LEDs (green and blue)
- CR2032 coin battery holder
- Software adjustable transmitter power (-23dBm to 0dBm) for short to long range applications.
- Ultra low power consumption: 18.2mA 0dB TX, RX down to 17.9mA , $1\mu\text{A}$ sleep w/timer, and $0.5\mu\text{A}$ deep sleep.
- Available AT.e SDK for custom embedded applications on the module with approximately 130kB Flash and 2.5kB RAM available to the client application. Header with UART and CC Debugger signals for development.
- Firmware updates Over-the-Air (OTA).
- Easily configured to advertise as iBeacons to support immediate, near, and far proximity ranges.
- Free iOS BlueSense[™] Application and Android coming soon.

FIRMWARE OPTIONS

1. Default Sensorbug/BLEfob application firmware.
2. AT.e BLE stack (no source) for custom embedded applications, which requires the IAR Systems Compiler.

SPECIFICATIONS SUMMARY

Physical Specifications Summary

Item	Specifications
Diameter	56.769mm X 34.036mm X 11.430mm
Weight	16gm (0.5 oz.)
Enclosure Construction	ABS translucent plastic with rubber buttons

Operating Conditions Summary

Item	Specifications
Supply voltage (VDD)	2.0-3.6 V
VDD ripple	100 mV Max
Max voltage on any pin	VDD + .3 V (Not 5V Tolerant)
Ambient Temperature Range	-20 – 60 °C

RF Specifications Summary

Item	Specifications
Frequency	2402 – 2480 MHz in 2 Mhz steps
Data Rate and Modulation	1 Mbps, GFSK
Number of Channels	40: 37 data / 3 advertising (0,12,39)
Receive Sensitivity (w/chip antenna)	-96/-90 dBm
Output Power	-23 to 0 dBm
Link Budget	Up to 96dB
RX/TX Turnaround	150 us

BR-IND-LE4.0-S3A (Industrial packaged version)

Main circuit board electronics and battery fits into industrial ABS black or white plastic box below:

52.832 mm X 32.512mm X 11.430mm (2.080" X 1.280" X 0.450")



ORDERING INFORMATION

OEM Pricing and ordering information can be found at:
http://www.blueradios.com/orderinfo_new.htm

Consumers purchase through Amazon.

PART NUMBER

BR-FOB-SEN-LE4.0-S3A "KeyFob"
BR-IND-SEN-LE4.0-S3A "Black Box"
BR-IND-BUTTON-S3A "Black Box SensorBug"

100 piece minimum.

Bulk Packaging