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## Bluetooth<sup>®</sup> 4.0 Low Energy Sensor

# SensorBug<sup>™</sup> BR-BUTTON-S3A

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● **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<sup>®</sup> 4.0 Certified ISM 2.4GHz module.
- Utilizes the BR-LE4.0-S3A Single Mode Module with 256K Flash, 8K RAM.
- 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, TSPS. As well as custom profiles for accelerometer, light, temperature, and over the air updates.



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## FEATURES

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- 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  $-55^{\circ}\text{C}$  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 ( $-23\text{dBm}$  to  $0\text{dBm}$ ) for short to long range applications.
- Ultra low power consumption:  $18.2\text{mA}$   $0\text{dB}$  TX, RX down to  $17.9\text{mA}$ ,  $1\mu\text{A}$  sleep w/timer, and  $0.5\mu\text{A}$  deep sleep.
- Firmware updates Over-the-Air (OTA).
- Easily configured to advertise as iBeacons, AltBeacons, or Eddystone to support immediate, near, and far proximity ranges.
- Free iOS BlueSense<sup>™</sup> Application

## FIRMWARE OPTIONS

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

## SPECIFICATIONS SUMMARY

### Physical Specifications Summary

Item	Specifications
Diameter (PCB)	25.50mm (1.0")
Weight	8gm (0.3oz)
Enclosure Construction	Plastic or clear Urethane

### 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 ( <b>Not 5V Tolerant</b> )
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

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## ORDERING INFORMATION

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OEM Pricing and ordering information can be found at:

[http://www.blueradios.com/orderinfo\\_new.htm](http://www.blueradios.com/orderinfo_new.htm)

Consumers purchase through Amazon.

### PART NUMBER

BR-BUTTON-S3A

### STANDARD PACKAGING OPTIONS.

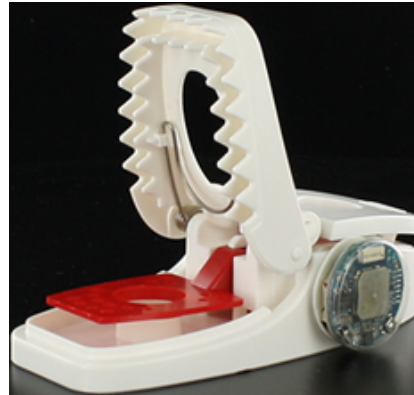
Tape and Reel (T&R) 150 pieces each (340mm x 25mm reel size) packaged with no batteries or enclosures.

IP67 packaging without dome labels.



[www.BLEhome.com](http://www.BLEhome.com)

Clear urethane slip on cover



[www.VerminAlert.com](http://www.VerminAlert.com)

