



BioSticker™ Instructions for Use

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Indications for Use

The BioSticker™ is a remote monitoring wearable device intended to collect physiological data in home and healthcare settings.

The data can include heart rate, respiratory rate, skin temperature, and other symptomatic or biometric data.

The device is intended for use on users who are 18 years of age or older.

The device does not output heart rate or respiratory rate measurements during periods of motion or activity.

The device is not intended for use on critical care patients.

Expanded Indications for Use Under FDA Enforcement Policies during the COVID-19 Public Health Emergency

The indications for use of this device that have expanded under FDA Enforcement Policies during the COVID-19 Public Health Emergency are:

- Indications for use have been expanded to persons who are 18 years of age or older (from 21 years of age or older)
- The device does not require physician prescription due to the Over-the-Counter (OTC) designation.

Recommendations provided by the device are adjunctive (supporting) and should not be solely or primarily relied upon to prevent, diagnose, or treat COVID-19 or co-existing conditions.

IN CASE OF EMERGENCY, CALL 911 IMMEDIATELY

Our support line is not for medical emergencies. If you believe you have an emergency, call 911.

Warnings and Precautions

DO NOT wear device over excessive body hair. Excessive body hair should be trimmed, using only an electric trimmer, before application.

DO NOT place on broken skin including wounds, sores, or abrasions.

DO NOT attempt to remove the adhesive immediately after application. Early removal may be uncomfortable and may cause irritation.

DO NOT continue wearing if severe discomfort or irritation occurs.

DO NOT submerge the device underwater. Submerging the device for an extended period of time will damage the device.

DO NOT exert excessive force, drop, modify, or attempt to take apart the device. Doing so may cause malfunction or permanent damage.

DO NOT wear or use the device during a magnetic resonance imaging (MRI) procedure or in a location where it will be exposed to strong electromagnetic forces.

- Remove the device prior to any defibrillation events. Clinical validation has not been performed for persons who have a defibrillator, pacemaker, or other implantable device.
- Keep the device away from children and pets. The device is a choking hazard and is harmful if swallowed.
- The BioSticker is to be worn on the upper left chest.
- This device is non-sterile.
- This device contains parts and assemblies susceptible to damage by electrostatic discharge.
- The device is not intended to detect abnormal cardiac rhythm episodes (such as atrial fibrillation).
- Electronic equipment, including portable and mobile Radio Frequency (RF) communications equipment, and RF emitters such as diathermy, electrocautery, RFID, and security systems (e.g., electromagnetic anti-theft systems, and metal detectors), can be sources of electromagnetic disturbances which will affect the operation of the BioSticker device. Operating non-essential equipment in the vicinity of the BioSticker device should be avoided. If interference is suspected, the responsible equipment and associated cables should be moved away from the BioSticker device.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to the BioSticker device.
- Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
- Depending on strength of electromagnetic or radio frequency disturbances, a temporary interruption of data collection is possible, which may impact continuous monitoring. If encountering such event, consult the troubleshooting section of this document.

Use Instructions

GET STARTED

1. **Press and hold** the button for **4 seconds**. The light will blink **yellow** (indicating that the device is ready to be activated).
2. **Activate** your BioSticker with the designated **app** or **hub device** indicated in your program's instructions.
3. **Confirm BioSticker activation** by pressing the button and verifying that the light blinks **green, 4 times**. If the blink pattern is different or the light does not blink, refer to the **Button Light Pattern guide** after step 10 for guidance.
4. Locate the placement area on your **upper left chest**, two inches below your collar bone.
5. **Trim any body hair** using only an electric trimmer and **cleanse area** with a warm, damp cloth.
6. **Take** one adhesive. Peel the backing from the **device side** of the adhesive.
7. Place the **BioSticker** on the exposed adhesive.
8. Turn the device over and **remove** remaining adhesive backing.
9. **Adhere** BioSticker to the upper left chest, horizontally or vertically. Apply pressure for **15 seconds**.
10. Press the button to check the device status. Refer to the **Button Light Pattern guide** below.

PATTERN	MEANING
10 yellow blinks	Device not activated. Please follow activation instructions or call customer support for help setting up your device.
4 green blinks	Device activated and actively monitoring
Alternating green + yellow blinks	Monitoring episode complete
Solid red light or no light	Device error -- contact support immediately

The device may turn off in the presence of strong Electro-Magnetic Interference (EMI). If this happens, reactivate the device by pressing and holding the button for 5 seconds. When you release the button, the light should blink. If the device does not blink, please try activating the device in another room, away from heavy machinery, motors, or generators.

The device is expected to operate for 30 days once activated. If you suspect your device is no longer working, press the button. The light will either not blink, or blink red if not operable.

Replace Your Adhesive

- When no longer sticky.
- If you experience redness or irritation in the placement area.

REMOVE adhesive from bottom of device. Follow steps 4 through 9 to put on a new adhesive and reapply BioSticker.

When replacing the adhesive, it is advised to apply the device to a different location within the placement area.

For tips on long-term wear and additional adhesive support, visit: BioIntelliSense.com/support

If additional support is required, please call **888.908.8804** (US) or email support@biointellisense.com

Troubleshooting and FAQs

Can I shower or exercise with my device?

Yes, the device is water resistant and can be worn during showers and exercise. Do not apply any oil or lotion to the placement area as it will reduce adhesion of the device to the skin.

Can I swim or bathe with my device?

No, although the device is water resistant it should not be submerged underwater including while swimming or bathing. Prolonged submersion underwater may cause damage to the device and may cause the device to loosen from the skin. If removed for swimming or bathing, replace the adhesive and reapply the device to the placement area.

How long can I wear my adhesive?

The adhesive is designed for continuous use and can be worn until the adhesive loosens from the skin. On average, it is recommended to replace the adhesive every 7 days. If the adhesive is removed while still firmly secured, use a skin adhesive remover or baby oil to help loosen the adhesive as you gently peel from your skin.

How long should I wear my device?

Please wear your device for the entire monitoring period. At the end of the monitoring period, return the BioSticker in the prepaid postage envelope. Note: At the end of the monitoring period, after pressing the button, the light will alternate between green and yellow.

I'm experiencing some skin irritation, what should I do?

Minor skin irritation and itching may occur while wearing the device. If a severe reaction develops, discontinue wearing and immediately contact your physician.

Can I wear my device through a metal detector?

Yes, please tell TSA or any security representative that you are wearing a "medical device."

My device isn't blinking after I press the button, what do I do?

The device may no longer be active. To reactivate the device, press and hold the button for 4 seconds. When you release the button, the light should blink green. If the device does not blink, please immediately contact Customer Support.

Safety and Regulatory Information

FCC STATEMENT

Model: BIOST01021F
FCC ID: 2ASE7- BIOST01021

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.

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

BioIntelliSense and BioSticker are trademarks or registered trademarks of BioIntelliSense, Inc.

RESPONSIBLE PARTY:

BioIntelliSense, Inc.
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Redwood City, CA 94063

TERMS OF USE STATEMENT

NOTICE: Use of the BioIntelliSense Product(s) is subject to our

- Website and Product User Terms of Use at www.biointellisense.com/website-and-product-user-terms-of-use
- Website and Product Privacy Policy at www.biointellisense.com/legal/privacy-policy

By using the Product(s), you indicate you have read these terms and policies and that you agree to them, including the limitations and disclaimers of liability. In particular, you understand and consent that use of the Product(s) measures and records personal information about you, including vital sign and other physiologic measurements. That information may include respiratory rate, heart rate, temperature, activity level, sleep duration, body position, step count, gait analysis, coughing, and other symptomatic or biometric data. You understand that the Product(s) do not render medical advice or diagnose or prevent any specific disease, including any communicable disease or virus. If you have any concerns about your health, including whether you have been exposed to or have contracted any disease or virus, immediately contact your healthcare provider.

SYMBOL LIBRARY



MRI unsafe



Don't use if package is damaged



Latex-free



Consult with instructions for use



Type BF applied part



FCC icon



Single-use only



Temperature limitation



Humidity limitation



Apply by date



Lot number



Model number



Warning

Technical Specifications

Product Name	BioSticker
Model Number	BIOST01021F
Battery	620mAh, Lithium coin cell (3V)
Heart Rate* Range	40-125 beats per minute (± 5 beats per minute)
Respiratory Rate* Range	10-30 breaths per minute with a mean absolute error of <math>< 3</math> breaths per minute
Skin Temperature Range	86°F - 107.6°F (30°C - 42°C)
Skin Temperature Accuracy	<math>< 96.4^{\circ}\text{F} \pm 0.5^{\circ}\text{F}</math> (<math>< 35.8^{\circ}\text{C} \pm 0.3^{\circ}\text{C}</math> 96.4°F to $98^{\circ}\text{F} \pm 0.3^{\circ}\text{F}$ (35.8°C to $37^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ 98°F to $102^{\circ}\text{F} \pm 0.2^{\circ}\text{F}$ (37°C to $39^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$ 102°F to $106^{\circ}\text{F} \pm 0.3^{\circ}\text{F}$ (39°C to $41^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ > $106^{\circ}\text{F} \pm 0.5^{\circ}\text{F}$ (> $41^{\circ}\text{C} \pm 0.3^{\circ}\text{C}$)

STORAGE CONDITIONS

Temperature Range	-4°F to 104°F (-20°C to 40°C)
Humidity Range	10 - 95% RH

OPERATING CONDITIONS

Temperature Range	32°F to 104°F (0°C to 40°C)
Humidity Range	10 - 95% RH
Atmospheric Pressure	70 - 102 kPa
Water Resistance	IP47

COMMUNICATIONS

Communication Technology	Bluetooth (BT4.2)
Distance	Max. 10 meters (30 feet) line of sight
Radio Modulation GFSK	Gaussian frequency shift keying
Radio Frequency	2.4 - 2.5 GHz
Transmit Power	0dBm
Security	AES-CTR 128 bit encryption (Advanced encryption standard counter mode)

* Measurements are taken at rest

Guidance and Declaration – Electromagnetic Compatibility


ELECTROMAGNETIC EMISSION

The BioSticker sensor is intended for use in the electromagnetic environment specified below. The user of the device shall ensure that the device is used in such an environment.

EMISSION TEST METHOD	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT & GUIDANCE
RF emissions CISPR 11: 2009 + AI:2010	GROUP 1	The BioSticker sensor uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11: 2009 + AI:2010	CLASS B	The BioSticker sensor is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

ELECTROMAGNETIC IMMUNITY

The BioSticker sensor is intended for use in the electromagnetic environment specified below. The end user of the device should assure that it is used in such an environment.

IMMUNITY TEST	IEC 60601 TEST LEVEL	COMPLIANCE LEVEL	ELECTROMAGNETIC ENVIRONMENT - GUIDANCE
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15 kV air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz	10 V/m	<p>Portable and mobile RF communications equipment should be used no closer to any part of the BioSticker sensor than recommended to the frequency of the transmitter.</p> <p>Recommended separation distance: $d = 1.2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2.3 \sqrt{P}$ 800 MHz to 2.7 GHz</p> <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey(a) should be less than the compliance level in each frequency range(b).</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol: </p>

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

(a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radio, AM and FM radio broadcast, and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the BioSticker is used exceeds the applicable RF compliance level above, the BioSticker should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the BioSticker.

(b) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

IMMUNITY TO RF WIRELESS COMMUNICATIONS EQUIPMENT

TEST FREQUENCY (MHZ)	BAND ^A (MHZ)	SERVICE ^A	MODULATION ^B	MAXIMUM POWER (W)	DISTANCE (M)	IMMUNITY TEST LEVEL (V/M)
385	380-390	TETRA 400	Pulse modulation ^b 18 Hz	1.8	0.3	27
450	430-470	GMRS 460, FRS 460	FM ^c ± 5 kHz deviation 1 kHz sine	2	0.3	28
710, 745, 780	704 – 787	LTE Band 13, 7	Pulse modulation ^b 217 Hz	0.2	0.3	9
810, 870, 930	800 – 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation ^b 18 Hz	2	0.3	28
1720, 1845, 1970	1700 – 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation ^b 217 Hz	2	0.3	28
2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7 ^a	Pulse modulation ^b 217 Hz	2	0.3	28
5240, 5500, 5785	5100 –5800	WLAN 802.11 a/n	Pulse modulation ^b 217 Hz	0.2	0.3	9

^a For some services, only the uplink frequencies are included.

^b The carrier shall be modulated using a 50 % duty cycle square wave signal.

^c As an alternative to FM modulation, 50% pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

RECOMMENDED SEPARATION DISTANCE BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND BIOSTICKER

The BioSticker is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The end user of the device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the BioSticker sensor as recommended below, according to the maximum output power of the communications equipment.

RATED MAXIMUM OUTPUT POWER OF TRANSMITTER (W)	SEPARATION DISTANCE ACCORDING TO FREQUENCY OF TRANSMITTER (M)	
	80 MHZ TO 800 MHZ $D = 1.2 \sqrt{P}$	800 MHZ TO 2.7 GHZ $D = 2.3 \sqrt{P}$
0.01	0.12	0.23
0.1	0.38	0.73
1	1.2	2.3
10	3.8	7.3
100	12	23

Contact Us

For non-urgent support or questions about our product, please call **888.908.8804 (US)** or email support@biointellisense.com

MANUFACTURED BY

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