

# BodyMedia FIT Manual

## CORE Armband



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Armband Model AB155

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## Purpose of the System

### Intended Use

This system records calorie burn, minutes of moderate and vigorous physical activity, steps taken, and sleep efficiency and duration. Access to this information can help individuals with weight control and other fitness goals. The information presented by the system can be used by a fitness professional, physician or health practitioner to assess and manage the user's health and fitness level.

### Risks and Benefits

The predominant benefit of the product is enabling of the monitoring and management of daily metabolic and lifestyle data in order to reach your activity and weight goals. In addition to weight management, known benefits of increasing activity levels include increased life expectancy, improved sleep, and enhanced appearance and self perception.

Analysis and post market surveillance indicate that risks of using the products are extremely low. No significant health risks have been identified. The most frequently reported health risk, occurring in less than 1% of users, is a mild to severe skin irritation resulting from wearing the Armband. The issue is often resolved by following proper wear and cleaning guidelines. Skin irritation may still occur for individuals with highly sensitive skin or for those with a specific allergy to materials used in the Armband and/or strap. However, it is best to discontinue use and consult a physician regarding skin irritations.

If you have a known metal allergy, consult your physician prior to using the Armband. Read the instructions provided and review the Cautions section of this manual before using the Armband.

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## Setup Instructions

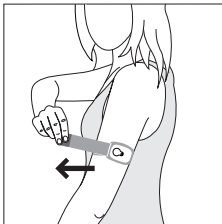
Please refer to the Quick Start included in the package for instructions on how to begin using the system. It only takes a few minutes to get set up and moving toward a healthier lifestyle.

## Armband Operating Instructions

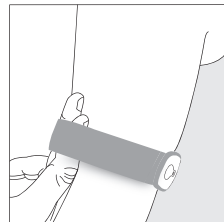
### Proper Wear and Cleaning

Wear your Armband on the back of the upper left arm (the tricep). To work properly, the BodyMedia logo must face upward towards the shoulder and the silver sensors on the underside of the Armband will be in contact with your skin.

1. Be sure the upper left arm is clean, dry, and free of lotion or oil then slide the Armband onto your left arm.
2. Adjust the strap so that it fits comfortably, and then secure the Velcro pull-tab. Please pull the strap straight out and AWAY from your arm, and NOT towards your chest to avoid pinching the skin. Ensure that the sensors on the underside of the Armband maintain continuous contact with your skin and that the Armband does not slide off your arm.
3. Do not secure the strap too tightly. You should be able to place two fingers beneath the strap. Once the strap is adjusted to a comfortable fit, there is no need to readjust the Velcro tab. Simply slide the Armband on and off your arm by stretching the strap.



4. Wear the Armband no more than 23 hours a day. Be sure to leave it off 1 hour per day.
5. Replace the strap if it has lost its elasticity. Information on obtaining replacement parts can be found in the Quick Start.



The Armband will turn on and begin collecting data within 10 minutes. Activation is indicated by a series of audio tones. Please note that there is no power button on the Armband.

### To clean the Armband:

1. Gently wipe the side of the Armband that touches the skin with a soft cloth or towel moistened with a mild soap and water.
2. Wipe with a clean damp cloth to remove any excess soap.
3. Use a dry, soft cloth or towel to completely dry before wearing it.

### To clean the Armband strap:

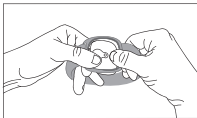
1. Hand wash with mild soap and warm water, rinse, then air dry.
2. Machine drying may affect the performance and lifespan of the strap.

NOTE: Always disinfect the Armband and replace the Armband strap prior to use by others.

### Removing the Armband strap from the Armband monitor

You will need to remove the Armband from its strap to upload data and charge the Armband, or to clean the Armband.

1. With the Armband logo facing upward, apply continuous downward pressure to the right side of the Armband Monitor until it separates from the Armband strap.



2. To reattach to the strap, locate the USB port on the Armband, then align port with the indentations on the left side of the strap. Apply upward pressure to the right side of the Armband until it snaps into place.

### Armband Status Indicators

#### Power

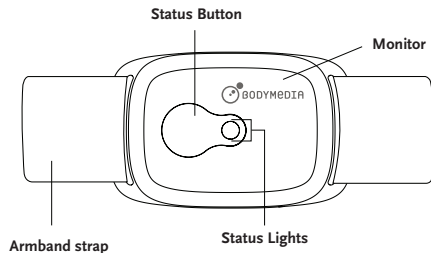
When the Armband makes contact with your body, it will automatically power on. This may take up to 10 minutes. Activation is indicated by a series of audio tones. Please note that there is no power button on the Armband.

#### Battery/Memory

Before first use, fully charge your Armband battery by removing the Armband strap and connecting the Armband to your computer with the included USB cable. Charging will take approximately three hours. The Status lights will flash green when the Armband is fully charged. Model AB155 will function for 4-6 days before recharging is needed based upon individual usage. The Model AB155 Armband can hold about 14 days of data.

To check if your Armband is ready to collect data, remove the Armband and press the Armband's Status button. The Status lights will indicate whether the Armband is ready to collect data:

- Green (solid) = Armband is ready.
- Amber (slow flashing) = Less than 24 hours of battery life or memory remain. Plug in the Armband to charge and upload data.
- Red (fast flashing) = Armband is not able to collect data. Plug in to charge and upload data.



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## Water Resistance

The Armband is not designed to be used underwater or to come into continuous contact with water. Do not immerse the Armband in water or any other liquids.

## Care Instructions

To ensure the Armband is working correctly, they should be cleaned regularly.

Clean the Armband daily after sweating or when either one becomes noticeably moist or dirty. Failure to keep the Armband clean, or improper cleaning, may irritate the skin and affect the sensor performance. Do not use solvents, cleaners or other chemicals to clean the Armband and do not sterilize it. Avoid the use of lotions or other chemicals on the skin.

### Cleaning

#### To clean the Armband:

1. Gently wipe the side of the Armband that touches the skin with a soft cloth or towel moistened with a mild soap and water.
2. Wipe with a clean damp cloth to remove any excess soap.
3. Use a dry, soft cloth or towel to completely dry before wearing it.

#### To clean the Armband strap:

1. Hand wash with mild soap and warm water, rinse, then air dry.
2. Machine drying may affect the performance and lifespan of the strap.

### Disinfecting

The Armband may be disinfected occasionally by wiping with soft cloth dampened with 70% isopropyl alcohol. Allow 5-10 minutes for drying before wearing. Always disinfect the Armband and replace the Armband strap prior to use by others.

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## Symbol Definitions



Follow operating instructions



CAUTION



Non-Ionizing radiation



The Waste Electrical and Electrical Equipment Regulations indicates separate collection for electrical and electronic equipment



Type B Applied Part



FCC Logo



Electrical Safety  
Armband tested to applicable safety standards by MET Laboratories






Transmit Power Class 8 – Less than 10mW output power










Duty Cycle Class 4 – permitted to operate at 100% duty cycle

Receiver Class 3 – Standard reliable SRD communication media

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## Cautions

-  CAUTION: Always consult a physician before starting any new diet or exercise program. This system is not to be used for diagnostic purposes and is not intended to be a substitute for the medical advice or supervision of your personal physician.
-  CAUTION: Materials in the Armband have been evaluated for skin contact. Because everyone's skin is different you may experience irritation or redness after wearing the Armband. If this occurs, discontinue use and consult your physician.
  - If you have known metal allergies, consult your physician prior to wearing.
  - Do not wear on an open wound, sore, or burn.
  - To reduce potential for skin irritation, wear for a maximum of 23 hours per day.
  - To reduce the potential risk of skin irritation, be sure to dry your arm thoroughly before wearing.
  - The tab at the end of the Armband strap should be aligned to avoid unintended contact with the skin which may cause scratching.
  - To avoid skin burns, do not wear when it has been exposed to excessively hot temperatures including direct sun exposure.
-  CAUTION: Be careful not to over-tighten the strap while on your arm. If you feel constriction or loss of circulation at any time, loosen the adjustable strap and re-fasten it to a more comfortable setting.
-  CAUTION: This product is not defibrillation proof.
-  CAUTION: Do not place this equipment in close proximity to other devices that can cause electromagnetic interferences of any nature.

-  CAUTION: The equipment is not suitable for use in the presence of a FLAMMABLE ANESTHETIC MIXTURE WITH AIR OR WITH OXYGEN OR NITROUS OXIDE.
-  CAUTION: Medical electrical equipment requires special precautions regarding electromagnetic environments (EMC) and must be installed and put into service according to the EMC information provided in the User Guide. Portable and mobile radio frequency (RF) communications equipment can affect medical electrical equipment.
-  CAUTION: The equipment of the system should not be used adjacent to or stacked with other equipment. If such a setup is necessary, all equipment should be checked to verify correct operation.
-  CAUTION: Keep this equipment out of reach of children. The products contain small, removable parts that may become choking hazards.
-  CAUTION: The equipment and wireless accessories should not be used in airplanes, hospitals, or any location that prohibits cellular telephones or electronic devices.
-  CAUTION: Do not use unapproved accessories.
-  CAUTION: Do not use the “reminders” feature of the Armband as a notification for any vital, life-critical events (including taking medication).
-  CAUTION: To prevent possible damage to the USB cable, grasp the plug end when disconnecting the USB cable. Replace the cable if it becomes frayed.
-  CAUTION: Check the equipment for sharp edges or damage before each use.

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- ⚠ CAUTION: DO NOT IMMERSE THE ARMBAND IN WATER. The Armband is not designed to be used underwater or to come in continuous contact with water.
  - ⚠ CAUTION: Though the Armband was designed for wearability and long-term use, they are sensitive monitoring devices. Rough handling can break internal components. Never drop or shock the Armband and always store it in a safe place when not in use.
  - ⚠ CAUTION: Avoid exposing the equipment to extreme temperatures, direct sunlight, moisture, sand, dust, or mechanical shock.
  - ⚠ CAUTION: Do not incinerate.
  - ⚠ CAUTION: Do not attempt to open the Armband yourself. It contains no user-serviceable parts. Refer all servicing to qualified Service Personnel. Opening the Armband yourself will void the warranty.
  - ⚠ CAUTION: Changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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## Safe Disposal

If you want to dispose of the Armband, please do not use the ordinary trash. This product must not be disposed of with your other household waste. Dispose of the Armband equipment by taking it to a designated collection point for the recycling of waste electrical and electronic equipment. This will help to conserve natural resources and ensure that the Armband is recycled in a manner that protects human health and the environment. For more information on where you can drop off your waste equipment for recycling, please contact your local township, municipality, or city; your household waste disposal service; or the location where you obtained the Armband.

## End User License Agreement

To view the End User License Agreement (EULA), please visit [www.dotfit.com/eula](http://www.dotfit.com/eula).

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## Technical Support

If you need assistance, please contact the dotFIT Technical Support Team at 877.436.8348 between 7 am and 6 pm Pacific Time, Monday through Friday.

## Product Specifications

### Armband

- Sensors:
  - Accelerometer (3-axis)
  - Heat Flux
  - Skin Temperature
  - Galvanic Skin Response (GSR)
- Materials:
  - Armband: ABS, polycarbonate, thermoplastic polyurethane, 304 grade stainless steel
  - Adjustable strap/wing assembly: Nylon, polyester, Lycra (no latex content) or polyisoprene, polycarbonate, thermoplastic polyurethane, silicone
- Battery power: about 4-6 days based upon individual use
- Battery type: Internal lithium polymer cell
- Radio Frequency: 2.4GHz
- Transmitter output power: <1mW
- Memory capacity: about 14 days under steady use
- Armband size: (l) 40mm x (w) 65mm x (h) 11mm [1.6" x 2.6" x 0.4"]
- Armband weight (with adjustable strap): 30g (1.1oz)
- Water resistance: IPX4 classified (only when Armband is properly inserted into the Armband strap)
- Operating temperature/humidity: 5°C - +40°C (40°F to 104°F) / 5 - 95% RH non-condensing
- Storage temperature/humidity: -20°C - +60°C (-4°F to 140°F) / 5 - 95% RH non-condensing.

Design and specifications are subject to change without notice.

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## Accuracy

### Accelerometer (3-axis)

Calibrated range is +/- 1.0g

Minimum resolution is 0.01g

Two-standard-deviation error of +/-0.08g on all axes

### Heat Flux

Calibrated Range is 0.0 W/m<sup>2</sup> to 300.0 W/m<sup>2</sup>

Minimum resolution is 1.0 W/m<sup>2</sup>

Two-standard-deviation error of +/-10.0 W/m<sup>2</sup>. 0 to 30 W/m<sup>2</sup>

Two-standard-deviation error of +/-35.0% otherwise

### Galvanic Skin Response

Calibrated Range is 56 kOhms to 20 MOhms (50.0 nSiemens – 17.0 μSiemens)

Two-standard-deviation error of +/- 9.0 nSiemen, 50 to 225 nSiemens

Two-standard-deviation error of +/-4.0% otherwise

### Skin Temperature

Calibrated Range is 20.0°C to 40.0°C

A minimum resolution of 0.05°C

Two standard deviation error of +/- 0.8°C

### System (Per day, adults)

Total calories/METs for free living activities: mean error < 10%

Total minutes of physical activity: mean error < 5%

Total step count: mean error < 9%



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## Warranty

Unless otherwise set forth in a separate limited warranty description included with the BodyMedia Hardware (including Armband, Display with Clip and Watch strap), dotFIT warrants that BodyMedia Hardware is free of defects in materials and workmanship under normal use and service ("Limited Warranty") for 1 year from the date the product is purchased by the original retail purchaser (the "Limited Warranty Period"). This warranty is only valid for the original retail purchaser and only from the date of initial retail purchase, and the purchaser must provide proof of purchase. The purchaser will be responsible for, and pre-pay, all return shipping charges and shall assume all risk of loss or damage to product while in transit to dotFIT. We recommend that you use a traceable method of shipping for your protection.

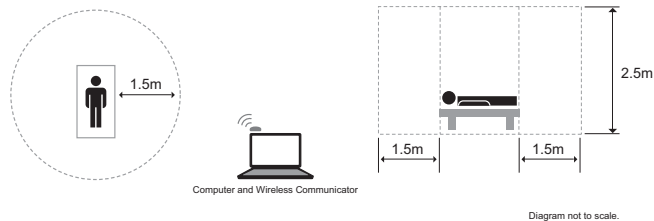
If a defect covered by this Limited Warranty occurs during the Limited Warranty Period, dotFIT will, at its option, repair or replace the entire unit or refund the original purchase price. The foregoing remedies are purchaser's sole and exclusive remedy and dotFIT's sole and exclusive liability for breach of the Limited Warranty.

This Limited Warranty is subject to compliance with the applicable user guides for the BodyMedia Hardware and does not apply to normal wear and tear or damage caused by improper or incorrectly performed maintenance, negligence, accident, misuse or unreasonable use, modification, tampering, or any other causes not related to design, materials or workmanship. This Limited Warranty excludes replaceable batteries.

EXCEPT AS SPECIFIED IN THIS LIMITED WARRANTY SECTION, ALL EXPRESS OR IMPLIED WARRANTIES, CONDITIONS AND REPRESENTATIONS, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, QUALITY, NON-INTERFERENCE, ACCURACY OR ARISING FROM A COURSE OF DEALING, PERFORMANCE, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW AND ARE EXPRESSLY DISCLAIMED BY BODYMEDIA. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE LIMITED WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY. THESE WARRANTIES GIVE CUSTOMER SPECIFIC LEGAL RIGHTS, AND CUSTOMER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SUBJECT TO APPLICABLE LAW, IN NO EVENT SHALL BODYMEDIA'S LIABILITY EXCEED THE PURCHASE PRICE OF THE BODYMEDIA HARDWARE. This disclaimer and exclusion shall apply even if the Limited Warranty set forth above fails of its essential purpose.

This limited warranty does not apply to any firmware included in or software provided and associated with the product. All such firmware and software is licenses under a separate end user license agreement.

## User Environment



### Guidance and Manufacturer's Declaration - Emissions

The Armband is intended for use in the electromagnetic environment specified below. The customer or user of the Armband should ensure that it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment - Guidance
RF Emissions CISPR 11	Class B, Group 1	The Armband 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.
Harmonics IEC 6100-3-2	N/A	The Armband is suitable for use in all establishments, including domestic, and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Flicker IEC 6100-3-3	N/A	

### Guidance and Manufacturer's Declaration - Immunity

The Armband is intended for use in the electromagnetic environment specified below. The customer or user of the Armband should ensure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
ESD IEC 61000-4-2	±6kV Contact ±8kV Air	±6kV Contact ±8kV Air	Floors should be wood, concrete, or ceramic tile. If floors are synthetic, the r/h should be at least 30%.
EFT IEC 61000-4-4	±2kV Mains ±1kV I/Os	N/A	Mains power quality should be that of a typical commercial or hospital environment.
	±1kV Differential ±2kV Common	N/A	
Voltage Dips/ Dropout IEC 61000-4-11	>95% Dip for 0.5 Cycles 60% Dip for 5 Cycles 30% Dip for 25 Cycles >95% Dip for 5 Seconds	N/A	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Armband requires continued operation during power mains interruptions, it is recommended that the Armband be powered from an uninterruptible power supply or battery.
Power Frequency 50/60Hz  Magnetic Field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be that of a typical commercial or hospital environment.

### Guidance and Manufacturer's Declaration - Emissions

The Armband is intended for use in the electromagnetic environment specified below. The customer or user of the Armband should ensure that it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms 150 kHz to 80 MHz	Portable and mobile communications equipment should be separated from Armband by no less than the distances calculated/listed below:  $D = (3.5/V1)(\text{Sqrt } P)$  $D = (3.5/E1)(\text{Sqrt } P)$ 80 to 800 MHz
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m 80MHz to 2.5 GHz	$D = (7/E1)(\text{Sqrt } P)$ 800 MHz to 2.5 GHz  Where P is the max power in watts and D is the recommended separation distance in meters.  Field strengths from fixed transmitters, as determined by an electromagnetic site survey, should be less than the compliance levels (V1 and E1).  Interference may occur in the vicinity of equipment containing a transmitter.

### Recommended Separation Distances for the Product


The Armband is intended for use in the electromagnetic environment specified below. The customer or user of the Armband can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF Communications Equipment and the Armband as recommended below, according to the maximum output power of the communications equipment.

Max Output Power (Watts)	Separation (m) 150kHz to 80MHz	Separation (m) 80 to 800MHz	Separation (m) 800MHz to 2.5GHz
	$D = (3.5/V1)(\text{Sqrt } P)$	$D = (3.5/V1)(\text{Sqrt } P)$	$D = (7/E1)(\text{Sqrt } P)$
0.01	0.1166	0.1166	0.2333
0.1	0.3689	0.3689	0.7378
1	1.1666	1.1666	2.3333
10	3.6893	3.6893	7.3786
100	11.6666	11.6666	23.3333

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## Regulatory Statement

**FCC Declaration of Conformity** – We, BodyMedia, Inc., One Gateway Center, 420 Fort Duquesne Boulevard, Suite 1900, Pittsburgh, PA 15222, declare under our sole responsibility that the products, BodyMedia, Inc. and BodyMedia® Armbands (Model AB155) comply 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 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 separate from the receiver.
- Consult the dealer or an experienced radio/TV technician for help.
-  **CAUTION:** Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure information: See 2.1093 of the FCC Rules

This product is a Type B Applied Part complying with the specified requirements of the Standard to provide protection against electric shock, particularly regarding allowable Leakage Current.

This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Radio Frequency: 2.4 GHz

Transmitter output power: Model AB155 <1mW

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### Models AB155:

FCC 47CFR Part 15 Subpart B Unintentional Radiator Tests

FCC 47CFR Part 15 Subpart C Intentional Radiator Tests

ETSI EN 301 489-1 with ETSI EN 301 489-17 (Article 3.1(b) of R&TTE Directive) 2.4GHz.

ICES-003 Tests

EN 60601-1-2: Medical electrical equipment – Part 1-2: General requirements for safety – Collateral standard: Electromagnetic compatibility – Requirements and tests  
IEC 60601-1-2 – Medical electrical equipment – Part 1-2: General requirements for safety – Collateral standard: Electromagnetic compatibility – Requirements and tests  
UL 60601-1– Medical Electrical Equipment; Part 1 General Requirements for Safety  
CSA Std C22.2 No. 601.1 M90– Medical Electrical Equipment; Part 1 General Requirements for Safety  
EN 60601-1- Medical Electrical Equipment; Part 1 General Requirements for Safety  
IEC 60601-1- Medical Electrical Equipment; Part 1 General Requirements for Safety  
RoHS requirements.  
RSS210 Tests – Industry Canada emissions requirements  
ETSI EN 300 440-1 and ETSI EN 300 440-2

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## Trademark Notice

dotFIT is a registered trademark of dotFIT, LLC.

BodyMedia, the “Four Circle” Design, GoWear, and SenseWear are registered trademarks and BodyMedia FIT and “Put on the Armband. Take off the Pounds” are trademarks of BodyMedia, Inc.