

EMISSIONS TEST REPORT

Report Number: 3134612BOX-005
Project Number: 3134612

Testing performed on the

SenseWear Armband

Model: FF 2.4 Armband

To

FCC Part 15 Subpart C 15.249
IC RSS-210 Issue 7 June 2007

For

BodyMedia, Inc.

Test Performed by:
Intertek – ETL SEMKO
70 Codman Hill Road
Boxborough, MA 01719

Test Authorized by:
BodyMedia, Inc.
4 Smithfield Street Suite 1200
Pittsburgh, PA 15222

Prepared by:



Nicholas Abbondante

Date: 12/20/2007

Reviewed by:



Michael F. Murphy

Date: 12/26/2007

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1.0 Job Description

1.1 Client Information

This EUT has been tested at the request of:

Company: BodyMedia, Inc.
4 Smithfield Street Suite 1200
Pittsburgh, PA 15222

Contact: Mr. Scott Boehmke

Telephone: 412-327-5552

Fax: 412-288-9902

Email: SKB@bodymedia.com

1.2 Equipment Under Test

Equipment Type: SenseWear Armband
Model Number(s): FF 2.4 Armband
Serial number(s): Prototype
Manufacturer: BodyMedia, Inc.
EUT receive date: 09/26/2007
EUT received condition: Prototype in Good Condition
Test start date: 09/27/2007
Test end date: 12/14/2007

1.3 Test Plan Reference: Tested according to the standards listed, RSS-Gen Issue 2
June 2007, and ANSI C63.4:2003

1.4 Test Configuration

1.4.1 Block Diagram



1.4.2. Cables:

Cable	Shielding	Connector	Length (m)	Qty.
None				

1.4.3. Support Equipment:

Name: None
Model No.:
Serial No.:

1.5 Mode(s) of Operation:

The EUT was activated from a fresh 1.5V battery and was transmitting continuously during testing.

2.0 Test Summary

TEST STANDARD	RESULTS	
FCC Part 15 Subpart C IC RSS-210 Issue 7 June 2007		
SUB-TEST	TEST PARAMETER	COMMENT
Fundamental Field Strength FCC 15.249, IC RSS-210 Annex 2.9	The peak fundamental field strength must not exceed 114 dBuV/m and the average fundamental field strength must not exceed 94 dBuV/m at a 3 meter test distance.	Pass
Occupied Bandwidth & Emissions Designator FCC 15.215, IC RSS-Gen 4.6 FCC 2. TRC-43	There is no limit on occupied bandwidth.	No Limit
Band Edge Compliance FCC 15.215, IC RSS-210 2.1	The fundamental frequency must remain within the band from 2400-2483.5 MHz.	Pass
Duty Cycle FCC 15.215, IC RSS-Gen 4.5	There is no limit on duty cycle.	No Limit
Radiated Emissions FCC 15.209, 15.249, IC RSS-210 Annex 2.9	Spurious emissions must be at least 50 dB below the fundamental field strength or must meet the general limits of 15.209 and RSS-210 Table 2.	Pass

Notes: The EUT is a transmitter operating in the range from 2406-2481 MHz

REVISION SUMMARY – The following changes have been made to this Report:

<u>Date</u>	<u>Project</u>	<u>Project</u>	<u>Page(s)</u>	<u>Item</u>	<u>Description of Change</u>
<u>No.</u>	<u>Handler</u>				

3.0 Sample Calculations

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

FS = Field Strength in $\text{dB}\mu\text{V}/\text{m}$

RA = Receiver Amplitude (including preamplifier) in $\text{dB}\mu\text{V}$

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB

AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 $\text{dB}\mu\text{V}$ is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 $\text{dB}\mu\text{V}/\text{m}$. This value in $\text{dB}\mu\text{V}/\text{m}$ was converted to its corresponding level in $\mu\text{V}/\text{m}$.

RA = 52.0 $\text{dB}\mu\text{V}$

AF = 7.4 dB/m

CF = 1.6 dB

AG = 29.0 dB

FS = 32 $\text{dB}\mu\text{V}/\text{m}$

$$\text{Level in } \mu\text{V}/\text{m} = [10(32 \text{ dB}\mu\text{V}/\text{m})/20] = 39.8 \mu\text{V}/\text{m}$$

The following is how net line-conducted readings were determined:

$$NF = RF + LF + CF + AF$$

Where NF = Net Reading in $\text{dB}\mu\text{V}$

RF = Reading from receiver in $\text{dB}\mu\text{V}$

LF = LISN Correction Factor in dB

CF = Cable Correction Factor in dB

AF = Attenuator Loss Factor in dB

To convert from $\text{dB}\mu\text{V}$ to μV or mV the following was used:

$$UF = 10^{(NF/20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$

Example:

$$NF = RF + LF + CF + AF = 28.5 + 0.2 + 0.4 + 20.0 = 49.1 \text{ dB}\mu\text{V}$$

$$UF = 10^{(49.1 \text{ dB}\mu\text{V}/20)} = 254 \mu\text{V}/\text{m}$$

3.1 Measurement Uncertainty

Compliance of the product is based on the measured value. However, the measurement uncertainty is included for informational purposes.

The expanded uncertainty ($k = 2$) for radiated emissions from 30 to 1000 MHz has been determined to be:

± 3.5 dB at 10m, ± 3.8 dB at 3m

The expanded uncertainty ($k = 2$) for mains conducted emissions from 150 kHz to 30 MHz has been determined to be:

± 2.6 dB

The expanded uncertainty ($k = 2$) for telecom port conducted emissions from 150 kHz to 30 MHz has been determined to be:

± 3.2 for ISN and voltage probe measurements

± 3.1 for current probe measurements

3.2 Site Description

Test Site(s): 2

Our OATS are 3m and 10m sheltered emissions measurement ranges located in a light commercial environment in Boxborough, Massachusetts. They meet the technical requirements of ANSI C63.4-2003 and CISPR 22:1993/EN 55022:1994 for radiated and conducted emission measurements. The shelter structure is entirely fiberglass and plastic, with outside dimensions of 33 ft x 57 ft. The structure resembles a quonset hut with a center ceiling height of 16.5 ft.

The testing floor is covered by a galvanized sheet metal groundplane that is earth-grounded via copper rods around the perimeter of the site. The joints between individual metal sheets are bridged with a 2 inch wide metal strips to provide low RF impedance contact throughout. The sheets are screwed in place with stainless steel, round-head screws every three inches. Site illumination and HVAC are provided from beneath the ground reference plane through flush entry ports, the port covers are electrically bonded to the ground plane.

A flush metal turntable with 12 ft. diameter and 5000 lb. load capacity (12,000 lb. in Site 3) is provided for floor-standing equipment. A wooden table 80 cm high is used for table-top equipment. The turntable is electrically connected to the ground plane with three copper straps. The straps are connected to the turntable at the center of it with ground braid. The copper strap is directly connected to the groundplane at the edges of the turntable. The turntable is located on the south end of the structure and the antennas are mounted 3 and 10 meters away to the north. The antenna mast is a non-conductive with remote control of antenna height and polarization. The antenna height is adjustable from 1 to 4 meters.

All final radiated emission measurements are performed with the testing personnel and measurement equipment located below the ground reference plane. The site has a full basement underneath the turntable where support equipment may be remotely located. Operation of the antenna, turntable and equipment under test is controlled by remote controls that manipulate the antenna height and polarization and with a turntable control. Test personnel are located below the ellipse when measurements are performed, however the site maintains the ability of having personnel manipulate cables while monitoring test equipment. Ambient radiated emissions are 6 dB or more below the relevant FCC emission limits.

AC mains power is brought to the equipment under test through a power line filter, to remove ambient conducted noise. 50 Hz (240 VAC single phase), 60 Hz power (120 VAC single phase, 208 VAC three phase), and 60 Hz (480 VAC three phase) are available. Conducted emission measurements are performed with a Line Impedance Stabilization Network (LISN) or Artificial Mains Network (AMN) bonded to the ground reference plane. A removable vertical groundplane (2 meter X 2 meter area) is used for line-conducted measurements for table top equipment. The vertical groundplane is electrically connected to the reference groundplane.

The EMC Lab has two Semi-anechoic Chambers and one Shielded Chamber. AC Mains Power is available at 120, 230, and 277 Single Phase; 208, 400, and 480 3-Phase. Large reference groundplanes are installed in the general lab area to facilitate EMC work not requiring a shielded environment.

Test Results: Pass

Test Standard: FCC Part 15 Subpart C, IC RSS-210 Issue 7 June 2007

Test: Fundamental Field Strength, FCC 15.249, IC RSS-210 Annex 2.9

Performance Criterion: The peak fundamental field strength must not exceed 114 dBuV/m and the average fundamental field strength must not exceed 94 dBuV/m at a 3 meter test distance.

Test Environment:

Environmental Conditions During Testing:	Ambient (°C):	21	Humidity (%):	26	Pressure (hPa):	1050
Pretest Verification Performed	Yes		Equipment under Test:	SenseWear Armband		
Test Engineer(s):	Nicholas Abbondante			EUT Serial Number:	Prototype	

Test Equipment Used:

TEST EQUIPMENT LIST					
Item	Equipment Type	Make	Model No.	Serial No.	Next Cal. Due
1	Digital 4 Line Barometer	Mannix	0ABA116	BAR2	05/20/2008
2	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	11/26/2008
3	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 197	CBL028	12/06/2008
4	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	12/06/2008
5	Horn Antenna, 1-18 GHz	A-Info	JXTXLB-10180	J41070703260 01	04/20/2008

Software Utilized:

Name	Manufacturer	Version
EXCEL 2000	Microsoft Corporation	9.0.6926 SP-3
EMI BOXBOROUGH	Intertek	3/07/07 Revision

Test Details:
Special Radiated Emissions

Company: BodyMedia, Inc.

Model #: 908901PROD2

Serial #: Prototype

Engineers: Nicholas Abbondante

Location: Site 2

Antenna & Cables: LF Bands: N, LF, HF, SHF

Antenna: HORN4 V3m 4-20-08.txt HORN4 H3m 4-20-08.txt

Cable(s): CBL028 12-06-08.txt CBL030 12-06-08.txt

Project #: 3134612

Date(s): 12/14/07

Barometer: BAR2

Standard: FCC Part 15 Subpart C 15.249

Temp/Humidity/Pressure: 21c 26% 1050mB

0.035

Receiver: R&S FSEK-30 (ROS001)

Limit Distance (m): 3

PreAmp: PRE9 3-25-08.txt

Test Distance (m): 3

PreAmp Used? (Y or N): N Voltage/Frequency: Fresh 1.5V Battery Frequency Range: 1-4 GHz

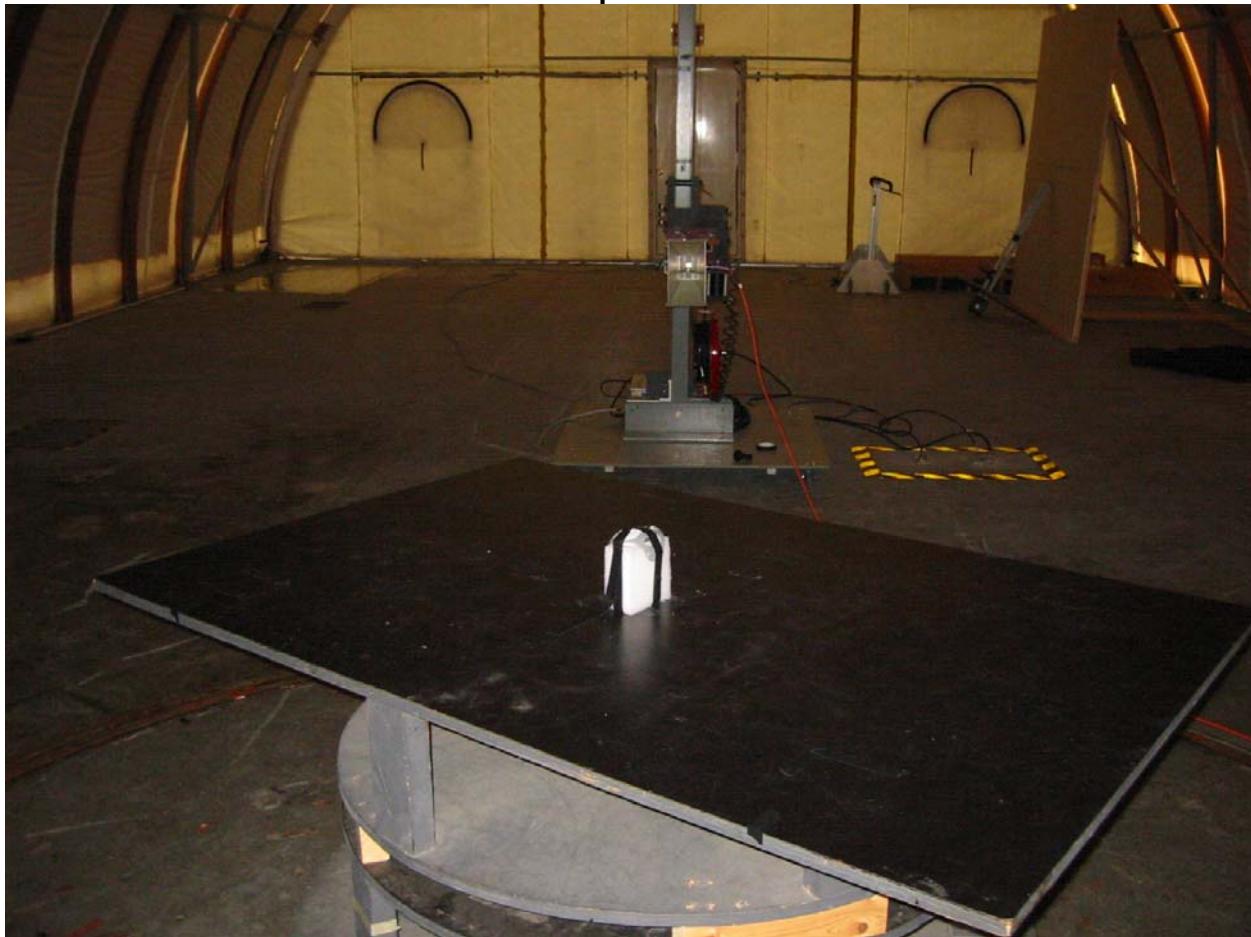
Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)

Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol.	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth
Note: Channel 15 (2406 MHz)											
PK	H	2406.000	64.5	29.1	4.5	0.0	0.0	98.1	114.0	-15.9	1/3 MHz
AVG	H	2406.000	50.4	29.1	4.5	0.0	0.0	84.0	94.0	-10.0	1/3 MHz
Note: Channel 128 (2451 MHz)											
PK	H	2451.400	63.7	29.2	4.6	0.0	0.0	97.5	114.0	-16.5	1/3 MHz
AVG	H	2451.400	49.6	29.2	4.6	0.0	0.0	83.3	94.0	-10.7	1/3 MHz
Note: Channel 202 (2481 MHz)											
PK	H	2481.000	61.5	29.2	4.6	0.0	0.0	95.4	114.0	-18.6	1/3 MHz
AVG	H	2481.000	47.3	29.2	4.6	0.0	0.0	81.2	94.0	-12.8	1/3 MHz

FCC IC

Setup Photos



Setup Photos



Test Results: No Limit

Test Standard: FCC Part 15 Subpart C, IC RSS-210 Issue 7 June 2007

Test: Occupied Bandwidth & Emissions Designator, FCC 15.215, RSS-Gen 4.6, TRC-43

Performance Criterion: There is no limit on occupied bandwidth.

Test Environment:

Environmental Conditions During Testing:	Ambient (°C):	21	Humidity (%):	64	Pressure (hPa):	1050
Pretest Verification Performed	Yes		Equipment under Test:	SenseWear Armband		
Test Engineer(s):	Nicholas Abbondante			EUT Serial Number:	Prototype	

Test Equipment Used:

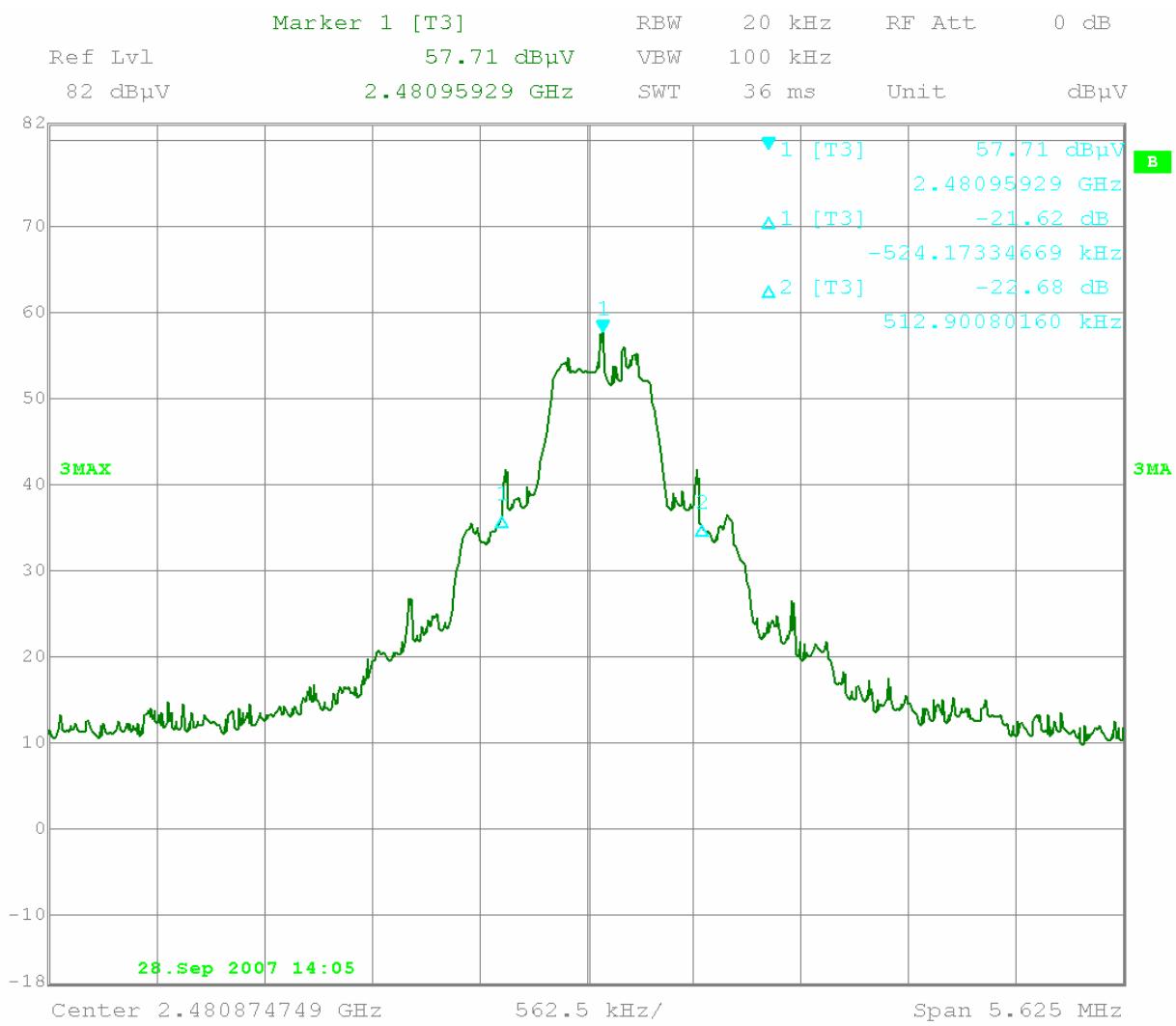
TEST EQUIPMENT LIST					
Item	Equipment Type	Make	Model No.	Serial No.	Next Cal. Due
1	Digital 4 Line Barometer	Mannix	0ABA116	BAR2	05/20/2008
2	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 197	CBL028	12/06/2008
3	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	12/06/2008
4	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	11/26/2008
5	Horn Antenna, 1-18 GHz	A-Info	JXTXLB-10180	J41070703260 01	04/20/2008

Software Utilized:

Name	Manufacturer	Version
EXCEL 2000	Microsoft Corporation	9.0.6926 SP-3
EMI BOXBOROUGH	Intertek	3/07/07 Revision

Test Details:

Notes: The emissions designator is 1M05G1D



Date: 28.SEP.2007 14:05:22
 Occupied Bandwidth, 1.037 MHz

Test Results: Pass

Test Standard: FCC Part 15 Subpart C, IC RSS-210 Issue 7 June 2007

Test: Band Edge Compliance, FCC 15.215, IC RSS-210 2.1

Performance Criterion: The fundamental frequency must remain within the band from 2400-2483.5 MHz.

Test Environment:

Environmental Conditions During Testing:	Ambient (°C):	See Table	Humidity (%):	See Table	Pressure (hPa):	See Table
Pretest Verification Performed	Yes			Equipment under Test:	SenseWear Armband	
Test Engineer(s):	Nicholas Abbondante			EUT Serial Number:	Prototype	

Test Equipment Used:

TEST EQUIPMENT LIST					
Item	Equipment Type	Make	Model No.	Serial No.	Next Cal. Due
1	Digital 4 Line Barometer	Mannix	0ABA116	BAR2	05/20/2008
2	Horn Antenna, 1-18 GHz	A-Info	JXTXLB-10180	J41070703260 01	04/20/2008
3	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 197	CBL028	12/06/2008
4	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	12/06/2008
5	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	11/26/2008

Software Utilized:

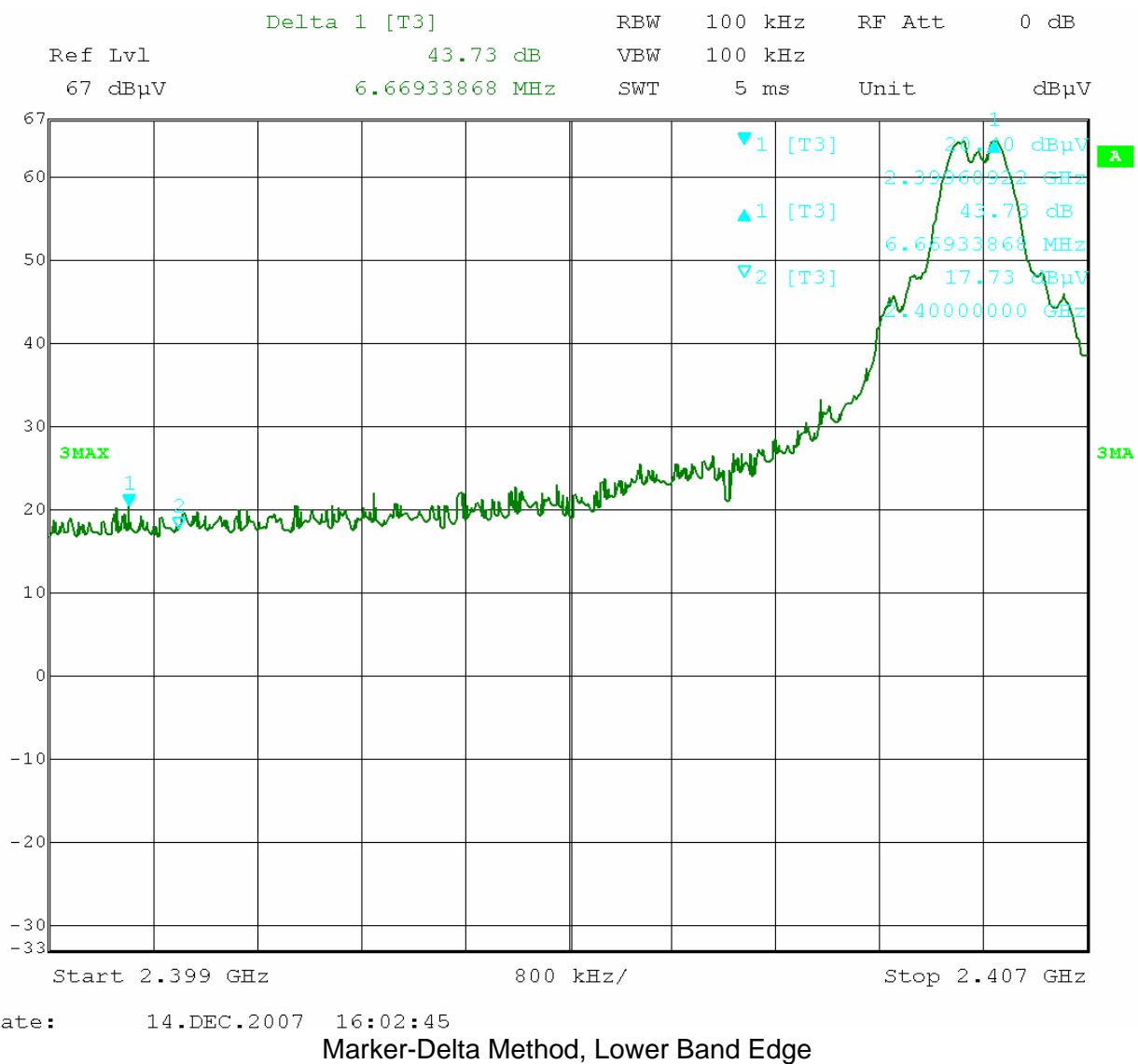
Name	Manufacturer	Version
EXCEL 2000	Microsoft Corporation	9.0.6926 SP-3
EMI BOXBOROUGH	Intertek	3/07/07 Revision

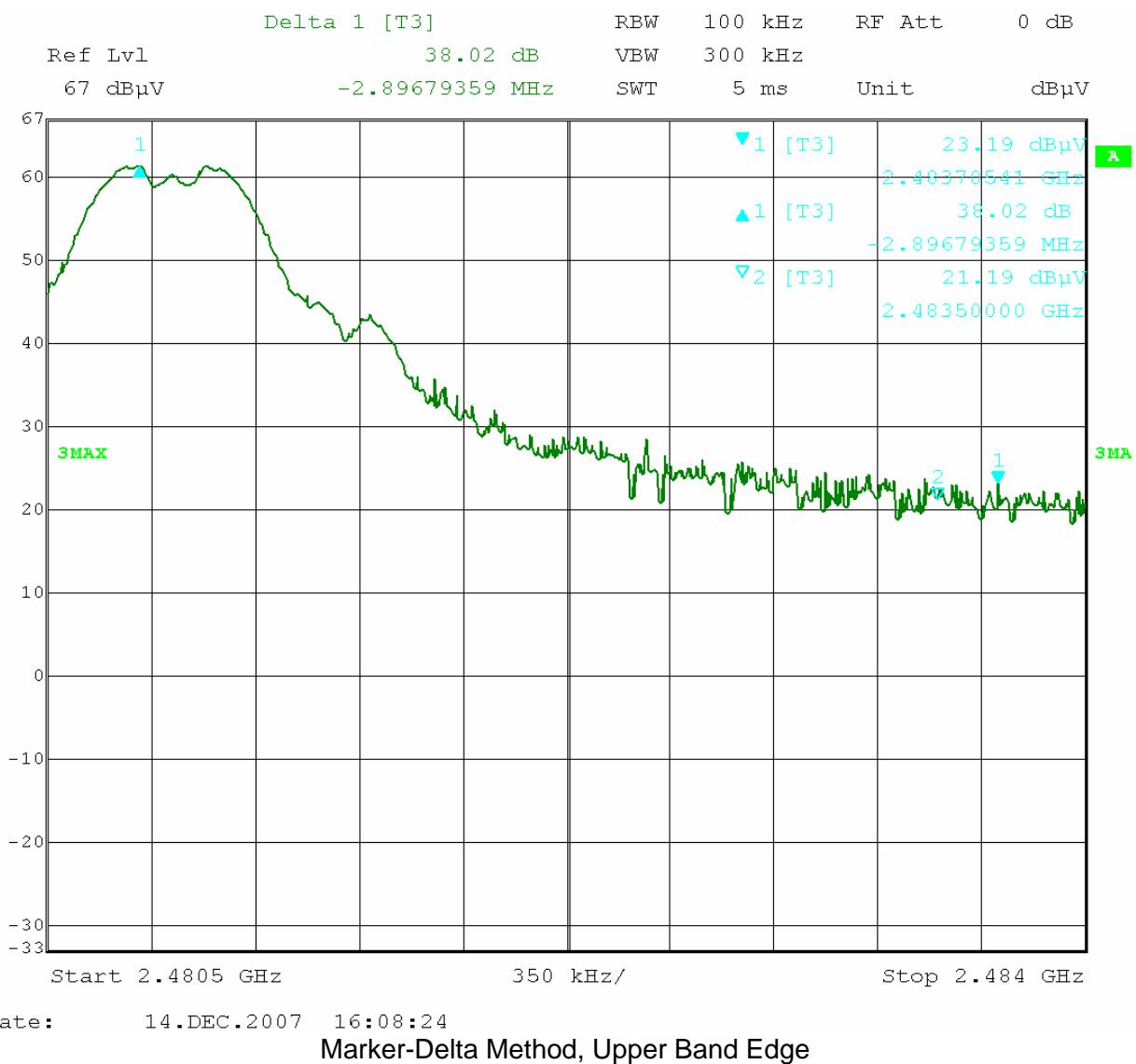
Test Details:

Notes: The marker-delta method was used to show compliance at the band edges.

Special Radiated Emissions

Company: BodyMedia, Inc.	Antenna & Cables: LF Bands: N, LF, HF, SHF										
Model #: 908901PROD2	Antenna: HORN4 V3m 4-20-08.txt HORN4 H3m 4-20-08.txt										
Serial #: Prototype	Cable(s): CBL028 12-06-08.txt CBL030 12-06-08.txt										
Engineers: Nicholas Abbondante	Barometer: BAR2										
Project #: 3134612	Date(s): 12/14/07										
Standard: FCC Part 15 Subpart C 15.249	Location: Site 2										
Receiver: R&S FSEK-30 (ROS001)	Limit Distance (m): 3										
PreAmp: PRE9 3-25-08.txt	Test Distance (m): 3										
PreAmp Used? (Y or N): N	Voltage/Frequency: Fresh 1.5V Battery Frequency Range: 1-4 GHz										
Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)											
Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW	0.035										
Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth
Note: Channel 15 (2406 MHz)											
PK	H	2406.000	64.5	29.1	4.5	0.0	0.0	98.1	114.0	-15.9	1/3 MHz
AVG	H	2406.000	50.4	29.1	4.5	0.0	0.0	84.0	94.0	-10.0	1/3 MHz
Note: Channel 128 (2451 MHz)											
PK	H	2451.400	63.7	29.2	4.6	0.0	0.0	97.5	114.0	-16.5	1/3 MHz
AVG	H	2451.400	49.6	29.2	4.6	0.0	0.0	83.3	94.0	-10.7	1/3 MHz
Note: Channel 202 (2481 MHz)											
PK	H	2481.000	61.5	29.2	4.6	0.0	0.0	95.4	114.0	-18.6	1/3 MHz
AVG	H	2481.000	47.3	29.2	4.6	0.0	0.0	81.2	94.0	-12.8	1/3 MHz
Note: Band Edge Compliance											
Note: Marker-Delta Method (43.73 dB delta below fundamental readings)											
PK	H	2400.000	20.8	29.0	4.5	0.0	0.0	54.4	74.0	-19.6	100/300 kHz
AVG	H	2400.000	6.6	29.0	4.5	0.0	0.0	40.2	54.0	-13.8	100/300 kHz
Note: Marker-Delta Method (38.02 dB delta below fundamental readings)											
PK	H	2483.500	23.5	29.2	4.6	0.0	0.0	57.4	74.0	-16.6	100/300 kHz
AVG	H	2483.500	9.3	29.2	4.6	0.0	0.0	43.2	54.0	-10.8	100/300 kHz





Test Results: No Limit

Test Standard: FCC Part 15 Subpart C, IC RSS-210 Issue 7 June 2007

Test: Duty Cycle, FCC 15.215, IC RSS-Gen 4.5

Performance Criterion: There is no limit on duty cycle.

Test Environment:

Environmental Conditions During Testing:		Ambient (°C):	21	Humidity (%):	68	Pressure (hPa):	1050
Pretest Verification Performed		Yes			Equipment under Test:	SenseWear Armband	
Test Engineer(s):	Nicholas Abbondante			EUT Serial Number:	Prototype		

Test Equipment Used:

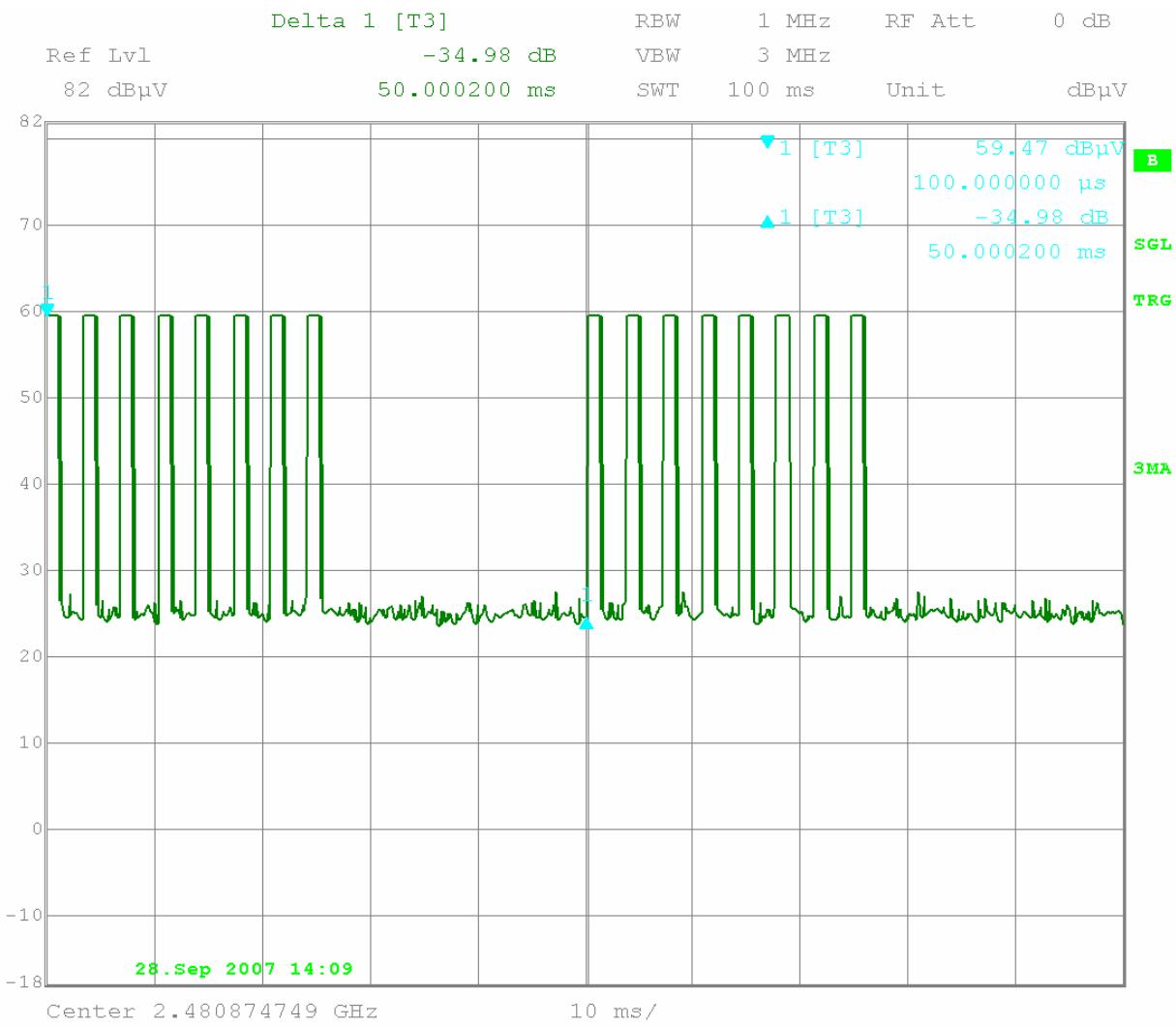
TEST EQUIPMENT LIST					
Item	Equipment Type	Make	Model No.	Serial No.	Next Cal. Due
1	Digital 4 Line Barometer	Mannix	0ABA116	BAR2	05/20/2008
2	Horn Antenna, 1-18 GHz	A-Info	JXTXLB-10180	J41070703260 01	04/20/2008
3	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 197	CBL028	12/06/2008
4	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	12/06/2008
5	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	11/26/2008

Software Utilized:

Name	Manufacturer	Version
EXCEL 2000	Microsoft Corporation	9.0.6926 SP-3
EMI BOXBOROUGH	Intertek	3/07/07 Revision

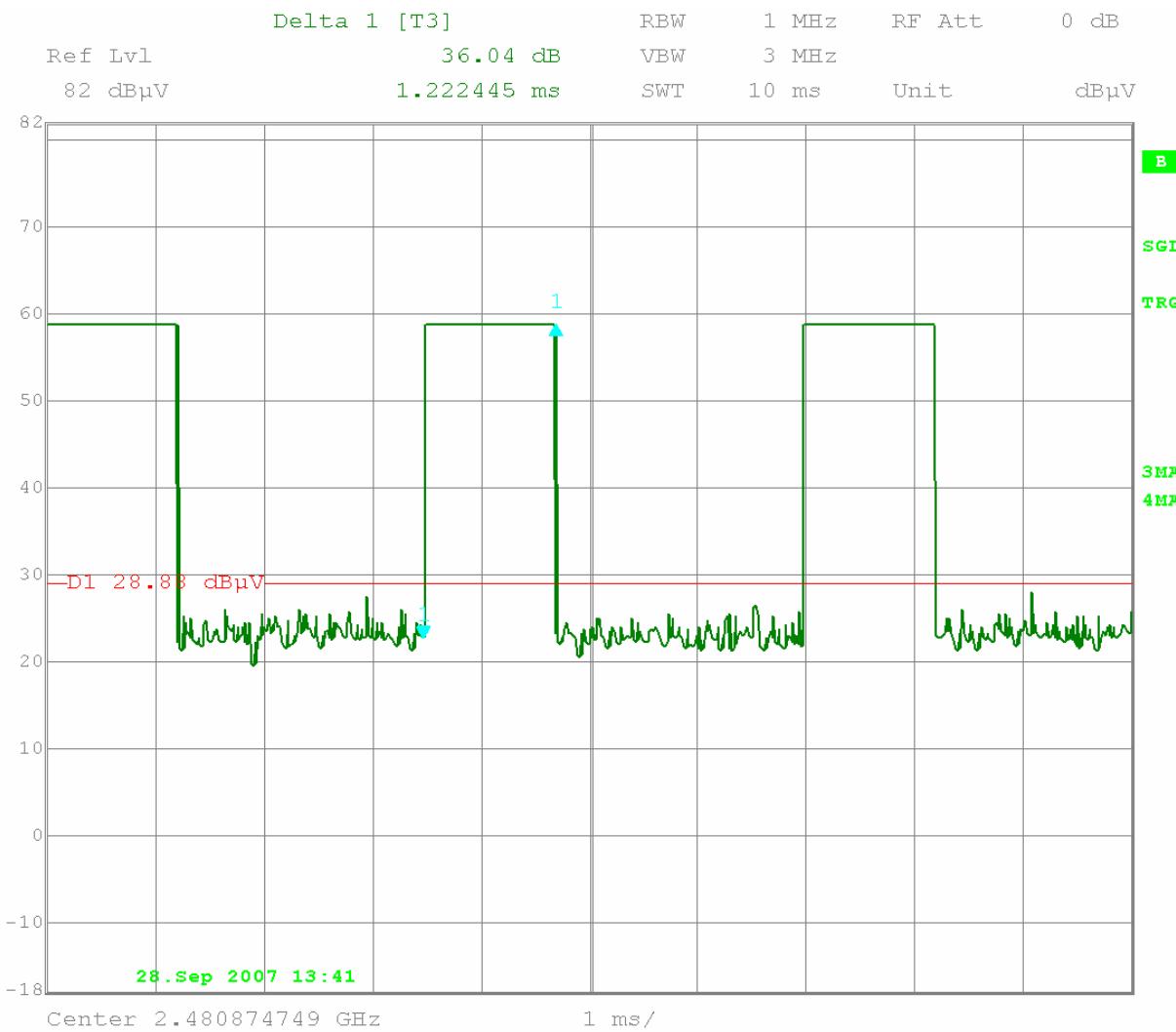
Test Details:

Notes: The duty cycle is 19.55%, yielding a duty cycle correction factor of 14.2 dB.



Date: 28.SEP.2007 14:10:01

Burst Length, 50 ms



Date: 28.SEP.2007 13:41:37
 Word Duration, 1.222 ms

Test Results: Pass

Test Standard: FCC Part 15 Subpart C, IC RSS-210 Issue 7 June 2007

Test: Radiated Emissions, FCC 15.209, 15.249, IC RSS-210 Annex 2.9

Performance Criterion: Spurious emissions must be at least 50 dB below the fundamental field strength or must meet the general limits of 15.209 and RSS-210 Table 2.

Test Environment:

Environmental Conditions During Testing:		Ambient (°C):	See Tables	Humidity (%):	See Tables	Pressure (hPa):	See Tables
Pretest Verification Performed		Yes		Equipment under Test:		SenseWear Armband	
Test Engineer(s):		Nicholas Abbondante		EUT Serial Number:		Prototype	

Test Equipment Used:

TEST EQUIPMENT LIST					
Item	Equipment Type	Make	Model No.	Serial No.	Next Cal. Due
1	Digital 4 Line Barometer	Mannix	0ABA116	BAR2	05/20/2008
2	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	11/26/2008
3	EMI Receiver with 85420E RF Filter Section S/N 3705A00230	Hewlett Packard	8542E	3906A00273	02/16/2008
4	Preamplifier, 100 MHz – 40 GHz	Miteq	NSP4000-NFG	1260417	03/25/2008
5	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 197	CBL028	12/06/2008
6	High Frequency Cable 40GHz	Megaphase	TM40 K1K1 80	CBL030	12/06/2008
7	Horn Antenna, 1-18 GHz	A-Info	JXTXLB-10180	J41070703260 01	04/20/2008
8	ANTENNA, RIDGED GUIDE, 18-40 GHZ	EMCO	3116	2090	12/13/2007
9	3 Meter In floor cable for site 2	ITS	RG214B/U	S2 3M FLR	09/17/2008
10	ANTENNA	EMCO	3142	9701-1116	12/04/2007
11	3GHz High Pass Filter	Reactel, Inc	7HSX-3G/18G-S11	06-1	09/18/2008
12	18GHz High Pass Filter	Reactel, Inc	7HS-18G/40G K11	(06)1	11/13/2007

Software Utilized:

Name	Manufacturer	Version
EXCEL 2000	Microsoft Corporation	9.0.6926 SP-3
EMI BOXBOROUGH	Intertek	3/07/07 Revision

Test Results:
Radiated Emissions

Company: BodyMedia, Inc.
 Model #: 908901PROD2
 Serial #: Prototype
 Engineers: Nicholas Abbondante
 Project #: 3134612 Date(s): 09/27/07
 Standard: FCC Part 15 Subpart C 15.249
 Receiver: HP 8542E (145-092)
 PreAmp: PRE9 3-25-08.txt
 PreAmp Used? (Y or N): N Voltage/Frequency: Fresh 1.5V Battery Frequency Range: 30-1000 MHz
 Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth	FCC	IC
Note: All emissions are readings of instrumentation noise floor; no emissions were detected from the EUT													
QP	V	195.300	1.1	9.8	1.8	0.0	0.0	12.7	48.1	-35.4	120/300 kHz		
QP	H	232.400	0.8	11.7	1.9	0.0	0.0	14.4	48.1	-33.7	120/300 kHz	RB	RB
QP	H	240.050	0.6	12.0	2.0	0.0	0.0	14.6	46.0	-31.4	120/300 kHz	RB	RB
QP	H	262.700	0.5	12.6	2.1	0.0	0.0	15.2	46.0	-30.8	120/300 kHz		
QP	H	296.700	1.1	13.9	2.2	0.0	0.0	17.2	48.1	-30.9	120/300 kHz		
QP	H	310.700	1.1	14.4	2.3	0.0	0.0	17.8	48.1	-30.3	120/300 kHz		
QP	H	329.300	0.4	15.0	2.4	0.0	0.0	17.7	46.0	-28.3	120/300 kHz	RB	RB
QP	H	336.000	0.8	15.2	2.4	0.0	0.0	18.4	48.1	-29.7	120/300 kHz		
QP	H	395.100	1.3	16.2	2.6	0.0	0.0	20.1	48.1	-28.0	120/300 kHz		
QP	H	498.900	1.3	17.8	3.1	0.0	0.0	22.1	48.1	-26.0	120/300 kHz		

Special Radiated Emissions

Company: BodyMedia, Inc.
 Model #: 908901PROD2
 Serial #: Prototype
 Engineers: Nicholas Abbondante
 Project #: 3134612 Date(s): 09/28/07
 Standard: FCC Part 15 Subpart C 15.249
 Receiver: R&S FSEK-30 (ROS001)
 PreAmp: PRE9 3-25-08.txt
 PreAmp Used? (Y or N): Y Voltage/Frequency: Fresh 1.5V Battery Frequency Range: 1-18 GHz
 Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)
 Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth	FCC	IC
Note: No spurious emissions were detected between 1-4 GHz													
Note: Also with 3 GHz High Pass Filter REA004 Cal Due 9-18-08													
Note: All emissions are readings of instrumentation noise floor; no emissions were detected from the EUT													
PK	V	6637.200	34.7	33.6	8.7	28.2	0.0	48.7	74.0	-25.3	1/3 MHz		
AVG	V	6637.200	25.6	33.6	8.7	28.2	0.0	39.7	54.0	-14.3	1/3 MHz	RB	RB
PK	V	12052.000	32.9	38.2	12.5	27.7	0.0	55.9	74.0	-18.1	1/3 MHz		
AVG	V	12052.000	23.0	38.2	12.5	27.7	0.0	45.9	54.0	-8.1	1/3 MHz	RB	RB
PK	V	17130.300	32.9	40.6	14.9	28.5	0.0	59.9	74.0	-14.1	1/3 MHz		
AVG	V	17130.300	23.3	40.6	14.9	28.5	0.0	50.4	54.0	-3.6	1/3 MHz		

Special Radiated Emissions

Company: BodyMedia, Inc.

Model #: 908901PROD2

Serial #: Prototype

Engineers: Nicholas Abbondante

Project #: 3134612

Date(s): 09/28/07

Location: Site 2

Antenna & Cables: SHF Bands: N, LF, HF, SHF

Antenna: EMC04 V 1m 12-13-2007.txt EMC04 H 1m 12-13-2007.txt

Cable(s): CBL028 12-04-2007.txt CBL030 12-04-2007.txt

Barometer: BAR2

Standard: FCC Part 15 Subpart C 15.249

Temp/Humidity/Pressure: 21c 68% 1050mB

Receiver: R&S FSEK-30 (ROS001)

Limit Distance (m): 3

PreAmp: PRE9 3-25-08.txt

Test Distance (m): 1

PreAmp Used? (Y or N): Y Voltage/Frequency: Fresh 1.5V Battery Frequency Range: 18-25 GHz

Net = Reading (dBuV/m) + Antenna Factor (dB1/m) + Cable Loss (dB) - Preamp Factor (dB) - Distance Factor (dB)

Peak: PK Quasi-Peak: QP Average: AVG RMS: RMS; NF = Noise Floor, RB = Restricted Band; Bandwidth denoted as RBW/VBW

Detector Type	Ant. Pol. (V/H)	Frequency MHz	Reading dB(uV)	Antenna Factor dB(1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth
Note: Also with 18 GHz High Pass Filter REA006											
PK	V	19529.000	36.1	45.2	16.0	29.4	9.5	58.3	74.0	-15.7	1/3 MHz
AVG	V	19529.000	23.5	45.2	16.0	29.4	9.5	45.7	54.0	-8.3	1/3 MHz
PK	V	21310.600	35.9	45.3	17.3	29.8	9.5	59.2	74.0	-14.8	1/3 MHz
AVG	V	21310.600	23.3	45.3	17.3	29.8	9.5	46.6	54.0	-7.4	1/3 MHz
PK	V	24074.100	34.5	45.5	18.7	30.1	9.5	59.1	74.0	-14.9	1/3 MHz
AVG	V	24074.100	22.0	45.5	18.7	30.1	9.5	46.6	54.0	-7.4	1/3 MHz

FCC IC

RB RB

RB RB

RB RB

RB RB

Radiated Emissions Setup Photos

