

EMISSIONS TEST REPORT

Report Number: 100719224BOX-039
Project Number: G100719224

Report Issue Date: 10/15/2012

Product Designation: POD miCoach Player-Cell in shirt mode, Model/Article number: Z56308

Standards: CFR47 FCC Part 15:2012 Subpart C Section 15.247,
CFR47 FCC Part 15:2012 Subpart B Class B,
IC RSS-210 Issue 8 December 2010,
IC RSS-Gen Issue 3 December 2010+Notice DRS 2012-DRS0126,
ICES-003 Issue 5 August 2012,
CENELEC EN 55022:2010,
AS/NZS Cispr 22:2009

Tested by:
Intertek Testing Services NA, Inc.
70 Codman Hill Road
Boxborough, MA 01719

Client:
Adidas International
1895 J. W. Foster Boulevard
Canton, MA 2021

Report prepared by Reviewer



Vathana Ven, Senior Project Engineer

Report reviewed by



Nicholas Abbondante, Transmitter
Staff Engineer

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1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested.

2 Test Summary

Section	Test full name	Result
3	Client Information	--
4	Description of Equipment Under Test	--
5	System Setup and Method	--
6	RF Output Power, Duty Cycle, and Human RF Exposure (CFR47 FCC Part 15 Subpart C 15.247(b)(3), KDB 558074v01 06/14/2012, IC RSS-210 A8.4(4), IC RSS-102 Issue 4 March 2010)	Pass
7	Transmitter Radiated Spurious Emissions (CFR47 FCC Part 15 Subpart C 15.247(d), IC RSS-210 A8.5, KDB 558074v01 06/14/2012 Section 5.4)	Pass
8	6 dB Bandwidth (CFR47 FCC Part 15 Subpart C 15.247(a)(2), IC RSS-210 A8.2(a), IC RSS-Gen Section 4.6.2, KDB 558074v01 06/14/2012 Section 5.1)	Pass
9	Peak Power Spectral Density (FCC 15:2011 Subpart C Section 15.247 (e), RSS-210 Issue 8 December 2010, A8.2 (b), KDB 558074v01 06/14/2012 Section 5.3)	Pass
10	Band Edge Compliance (FCC 15:2011 Subpart C Section 15.247 (d), RSS-210 Issue 8 December 2010, A8.5, KDB 558074v01 06/14/2012 Section 5.4.2.2.4)	Pass
-	Receiver Radiated Spurious Emissions (CFR47 FCC Part 15 Subpart B 15.109, IC RSS-Gen Sections 4.10 & 6.0)	Exempt, above 960 MHz
11	Digital Device Radiated Spurious Emissions (CFR47 FCC Part 15 Subpart B 15.109, IC ICES-003 Issue 5 August 2012, AS/NZS Cispr 22:2009, CENELEC EN 55022:2010)	Pass
12	Revision History	--

Note: The EUT is battery powered and does not have facility to connect to the AC mains, directly or indirectly. Therefore, line-conducted emission testing is not required.

3 Client Information

This EUT was tested at the request of:

Company: Adidas International
1895 J. W. Foster Boulevard
Canton, MA 2021

Contact: Mr. Evan Locke
Telephone: (781) 401-7260
Fax: Not Available
Email: Evan.Locke@adidas-Group.com

4 Description of Equipment Under Test

Equipment Under Test			
Description	Manufacturer	Model/Article Number	Serial Number
MiCoach Wireless Data Collection System, POD miCoach Player-Cell	Adidas International	Z56308	P18

Receive Date:	05/29/2012
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)	
The POD is part of a MiCoach Wireless Data Collection System. Wireless communication to a host via an internal chip antenna and Zigbee application with O-PQSK modulation is used. The Zigbee transceiver operates in the 2400-2483.5MHz band from 2405-2480MHz. The device was tested in shirt mode with a shirt attached containing biometric leads.	

Equipment Under Test Power Configuration			
Rated Voltage	Rated Current	Rated Frequency	Number of Phases
3.7VDC Lithium Battery	0.87 Ah	N/A	N/A

Operating modes of the EUT:	
No.	Descriptions of EUT Exercising
1	The device was in transmit mode for all transmitter testing
2	For digital devices testing the device was in idle mode

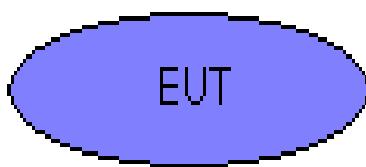
5 System Setup and Method

Cables					
Qty	Description	Length (m)	Shielding	Ferrites	Termination
	None				

Support Equipment			
Description	Manufacturer	Model Number	Serial Number
None			

5.1 Method:

Configuration as required by ANSI C63.4:2003, FCC Part 15:2012 Subpart C Section 15.247, RSS-210 Issue 8 December 2010, RSS-Gen Issue 3 December 2010, and KDB 558074v01 06/14/2012.

5.2 EUT Block Diagram:

6 Maximum Peak Output Power, Duty cycle, and Human RF Exposure

6.1 Method

Tests are performed in accordance with ANSI C63.4:2003, CFR47 FCC Part 15 Subpart C 15.247, IC RSS-210 Issue 8 December 2010, IC RSS-Gen Issue 3 December 2010, KDB 558074v01 06/14/2012, KDB 447498, and IC RSS-102 Issue 4 March 2010.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

Measurement Uncertainty

For radiated emissions, U_{lab} (3.5 dB at 3m and 3.5 dB at 10m below 1 GHz, and 4.2 dB at 3m above 1 GHz) $< U_{CISPR}$ (5.2 dB), which is the reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 22 and CISPR 11 (for 2006 and later revisions) Clause 11.

Sample Calculation

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 $\mu\text{V}/\text{m}$.

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

$$AF = 7.4 \text{ dB/m}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

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

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

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

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

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$

$$UF = 10^{(32 \text{ dB}\mu\text{V}/20)} = 39.8 \mu\text{V}/\text{m}$$

6.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	10/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	09/04/2012	09/04/2013
145128'	EMI Receiver 40 GHz (20 Hz – 40 Ghz)–	Rohde & Schwarz	ESI	8392831001	09/28/2012	09/28/2013

Software Utilized:

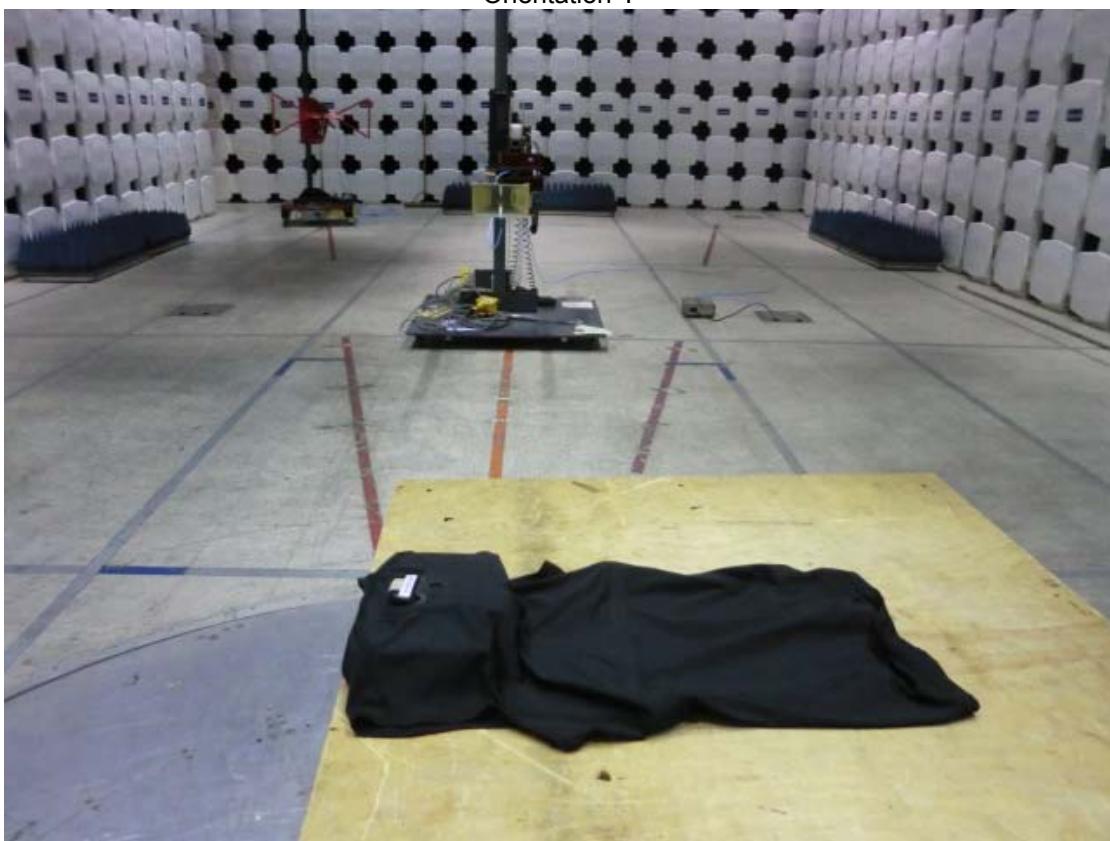
Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

6.3 Results:

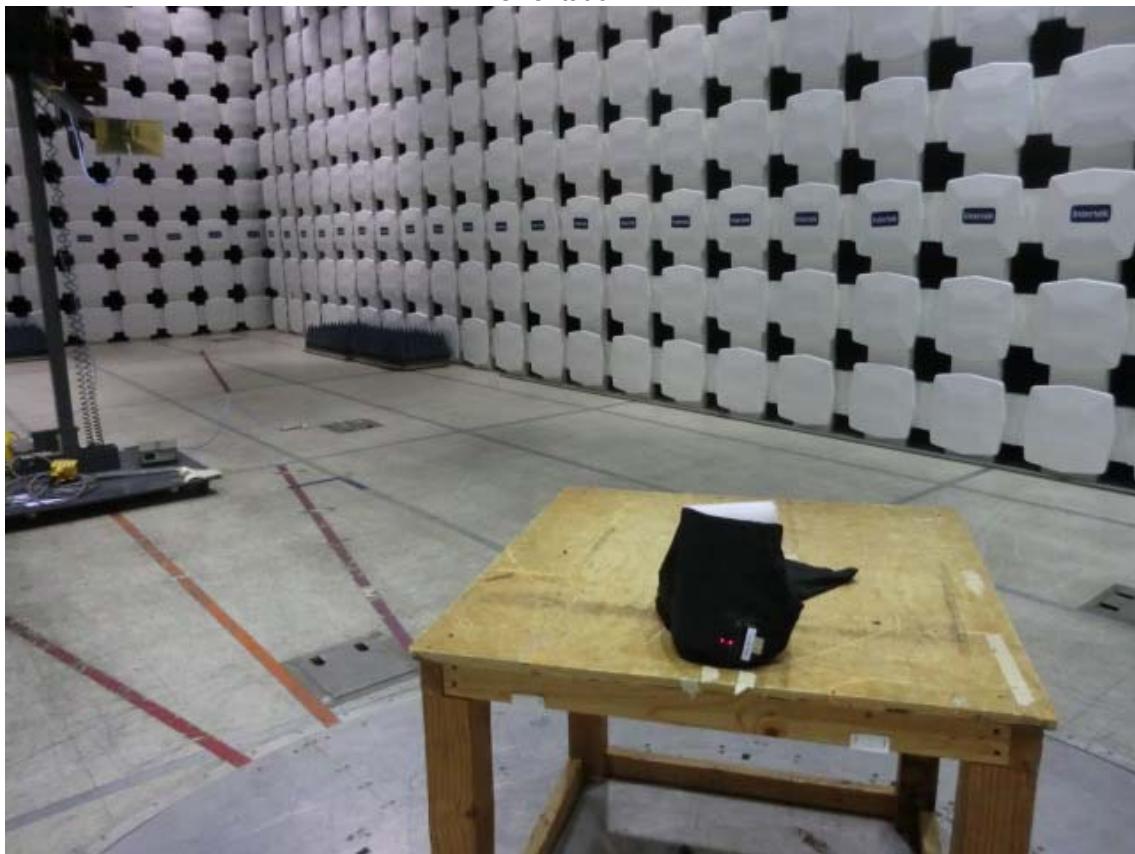
The EIRP must not exceed 36 dBm. The human RF Exposure limit is 1 mW/cm². The sample tested was found to comply.

6.4 Setup Photographs:

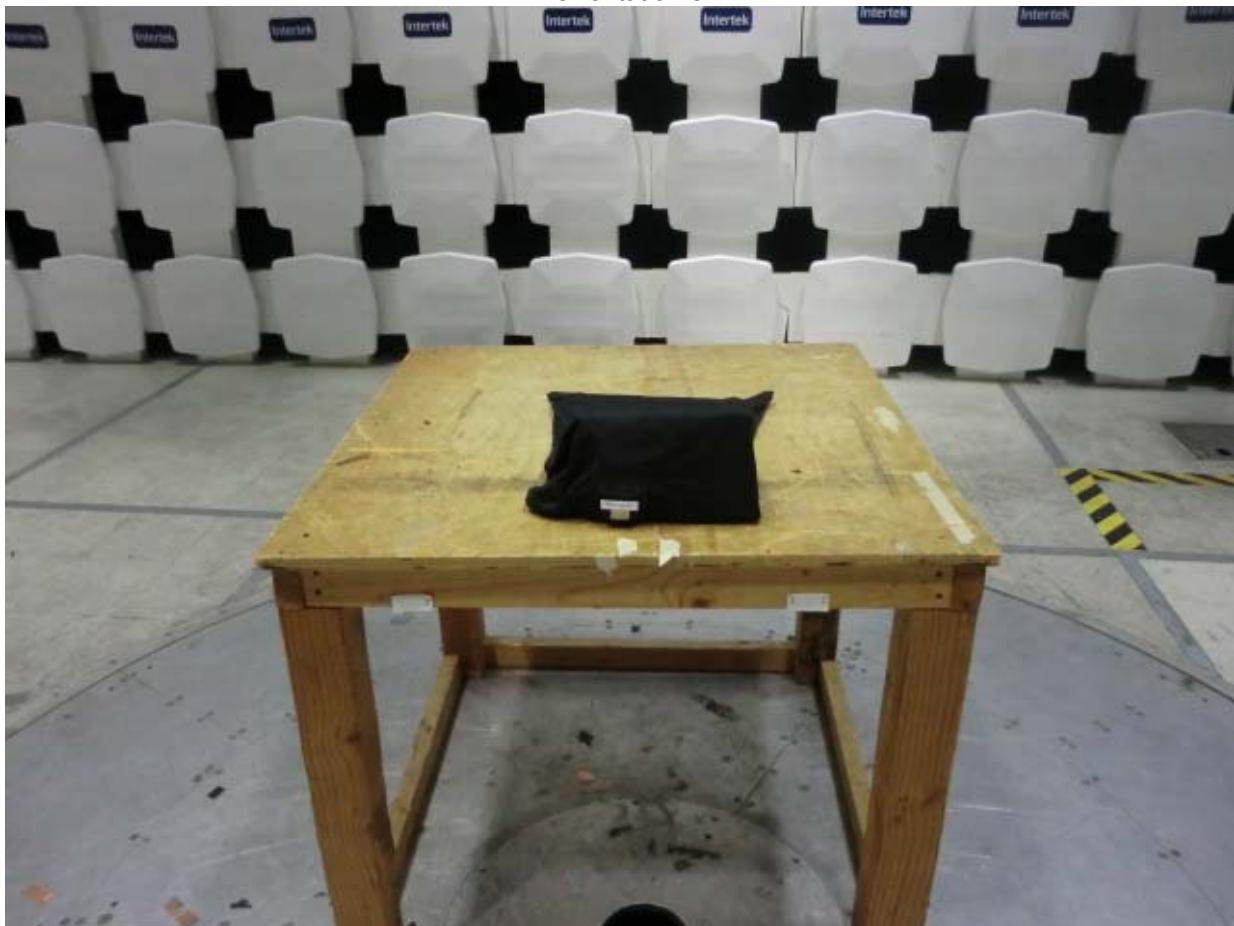
Orientation 1



Orientation 2



Orientation 3



Test Data:

Radiated Emissions - Channel 11
Radiated Emissions

Company: Adidas International
Model #: POD
Serial #: P18
Engineers: Vathana Ven
Project #: G100719224 Date(s): 10/04/12
Standard: FCC Part 15 Subpart C 15.247/RSS-210
Receiver: R&S ESI (145-148) 09-28-2013
PreAmp: PRE145014 12-16-2012.txt
PreAmp Used? (Y or N): N Voltage/Frequency: 3.7VDC Frequency Range: Frequencies Shown
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	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth
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FCC IC

Note: CH11, p = 255, RF Output Power (Unit was in shirt - Position 1)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2405.000	63.27	28.55	5.86	0.00	0.00	2.46	36.00	-33.54	5/10 MHz
PK	H	2405.000	67.90	28.33	5.86	0.00	0.00	6.87	36.00	-29.13	5/10 MHz

Note: CH11, p = 255, RF Output Power (Unit was in shirt - Position 2)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2405.000	64.51	28.55	5.86	0.00	0.00	3.70	36.00	-32.30	5/10 MHz
PK	H	2405.000	66.58	28.33	5.86	0.00	0.00	5.55	36.00	-30.45	5/10 MHz

Note: CH11, p = 255, RF Output Power (Unit was in shirt - Position 3)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2405.000	65.02	28.55	5.86	0.00	0.00	4.21	36.00	-31.79	5/10 MHz
PK	H	2405.000	64.01	28.33	5.86	0.00	0.00	2.98	36.00	-33.02	5/10 MHz

Radiated Emissions - Channel 18
Radiated Emissions

Company: Adidas International
Model #: POD
Serial #: P18
Engineers: Vathana Ven
Project #: G100719224 Date(s): 10/04/12
Standard: FCC Part 15 Subpart C 15.247/RSS-210
Receiver: R&S ESI (145-148) 09-28-2013
PreAmp: PRE145014 12-16-2012.txt
PreAmp Used? (Y or N): N Voltage/Frequency: 3.7VDC Frequency Range: Frequencies Shown
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	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth
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FCC IC

Note: CH18, p = 255, RF Output Power (Unit was in shirt - Position 1)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2440.000	61.87	28.60	5.91	0.00	0.00	1.16	36.00	-34.84	5/10 MHz
PK	H	2440.000	66.32	28.43	5.91	0.00	0.00	5.44	36.00	-30.56	5/10 MHz

Note: CH18, p = 255, RF Output Power (Unit was in shirt - Position 2)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2440.000	63.89	28.60	5.91	0.00	0.00	3.18	36.00	-32.82	5/10 MHz
PK	H	2440.000	63.52	28.43	5.91	0.00	0.00	2.64	36.00	-33.36	5/10 MHz

Note: CH18, p = 255, RF Output Power (Unit was in shirt - Position 3)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2440.000	61.74	28.60	5.91	0.00	0.00	1.03	36.00	-34.97	5/10 MHz
PK	H	2440.000	61.87	28.43	5.91	0.00	0.00	0.99	36.00	-35.01	5/10 MHz

Radiated Emissions - Channel 26
Radiated Emissions

Company: Adidas International

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

Model #: POD

Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt

Serial #: P18

Cable(s): 145-416 3mTrkB 10-04-2013.txt NONE.

Engineers: Vathana Ven

Location: 10m Chamber Barometer: DAV003

Filter: NONE

Project #: G100719224

Date(s): 10/04/12

Standard: FCC Part 15 Subpart C 15.247/RSS-210

Temp/Humidity/Pressure: 21c 53% 1003mB

Receiver: R&S ESI (145-148) 09-28-2013

Limit Distance (m): 3

PreAmp: PRE145014 12-16-2012.txt

Test Distance (m): 3

PreAmp Used? (Y or N): N Voltage/Frequency: 3.7VDC Frequency Range: Frequencies Shown

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	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth
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FCC IC

Note: CH26, p = 255, RF Output Power (Unit was in shirt - Position 1)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2480.000	60.74	28.67	5.97	0.00	0.00	0.16	36.00	-35.84	5/10 MHz
PK	H	2480.000	65.93	28.54	5.97	0.00	0.00	5.22	36.00	-30.78	5/10 MHz

Note: CH26, p = 255, RF Output Power (Unit was in shirt - Position 2)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2480.000	62.38	28.67	5.97	0.00	0.00	1.80	36.00	-34.20	5/10 MHz
PK	H	2480.000	62.51	28.54	5.97	0.00	0.00	1.80	36.00	-34.20	5/10 MHz

Note: CH26, p = 255, RF Output Power (Unit was in shirt - Position 3)

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2480.000	63.15	28.67	5.97	0.00	0.00	2.57	36.00	-33.43	5/10 MHz
PK	H	2480.000	59.41	28.54	5.97	0.00	0.00	-1.30	36.00	-37.30	5/10 MHz

RF Exposure:

The EUT is a portable device and was measured in a radiated fashion. The RF output power was measured using a resolution bandwidth larger than the bandwidth of the emission. The data obtained was adjusted for equipment losses and converted from a field strength reading to a power reading using the provisions of KDB 558074 and RSS-Gen 4.6. The human RF exposure limit is 1 mW/cm^2 . The power density S in mW/cm^2 generated by some value of EIRP in mW at a given distance d in cm is related by the equation:

$$S = \text{EIRP} / (4\pi d^2)$$

The distance, given a maximum EIRP of 6.87 dBm (4.86 mW), at which the radiated power density of the EUT is equal to the human RF exposure limit is 0.6 cm from the antenna. This result does not take averaging into account.

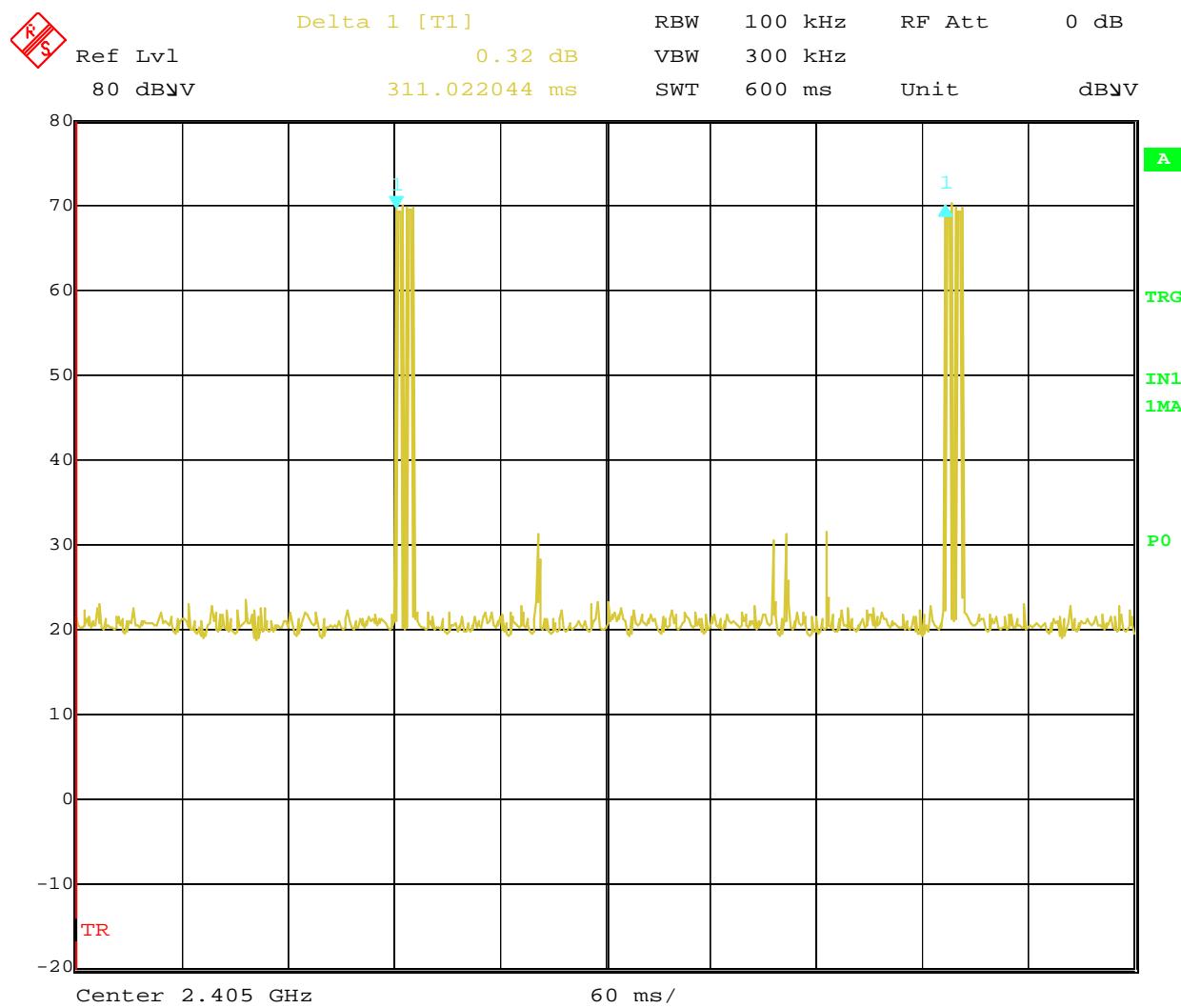
The EUT is exempt from FCC SAR RF exposure evaluation as referenced in KDB 447498 section 1(c) due to the average output power being below $60/f_{(\text{GHz})}$ where f is the frequency in GHz. This expression yields an exemption threshold of 24.2 mW (13.84 dBm) at 2480 MHz.

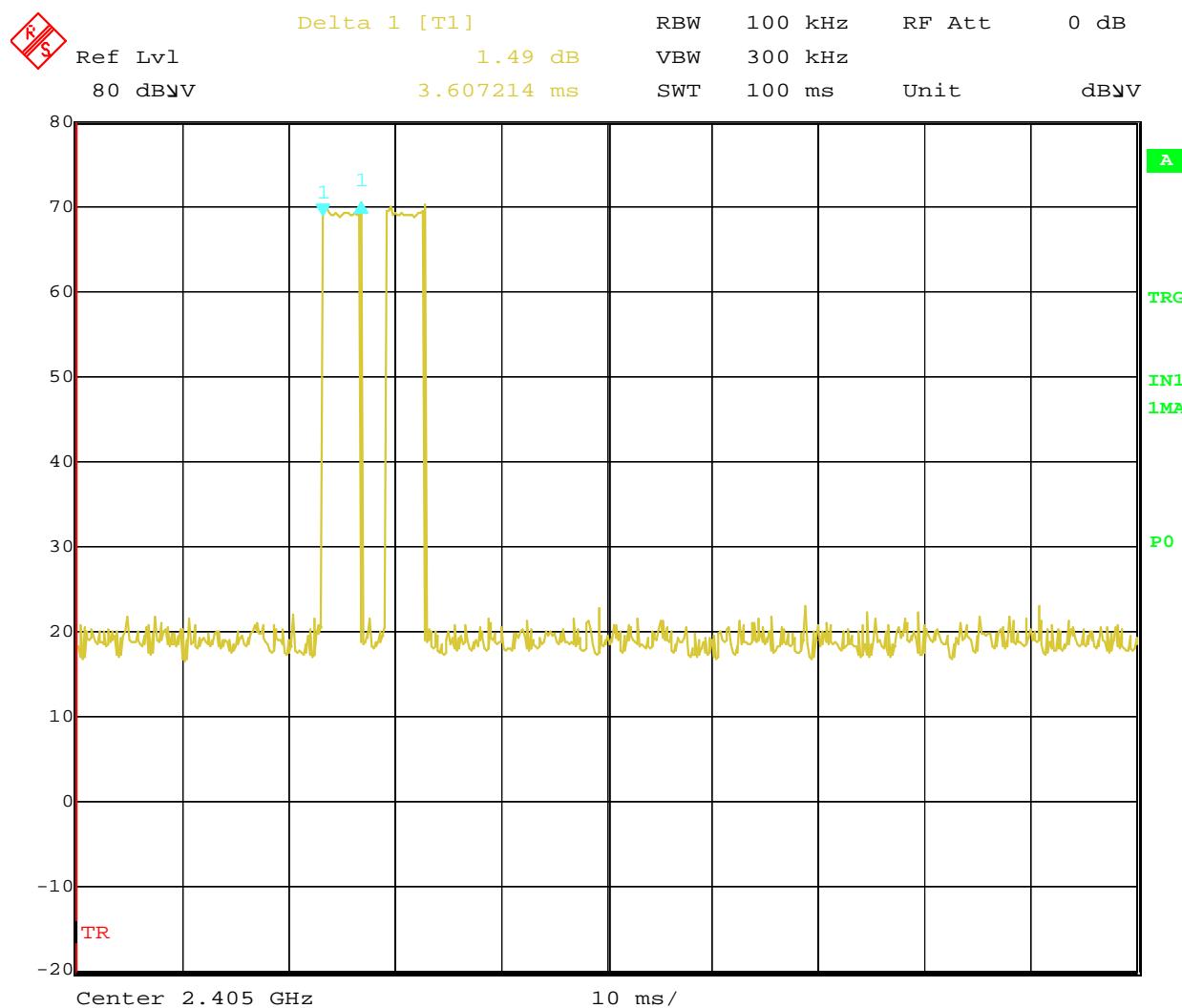
The EUT is exempt from IC SAR RF exposure evaluation as referenced in IC RSS-102 Issue 4 March 2010 section 2.5.1 because the operating frequency is between 2.2 and 3.0 GHz and the EIRP does not exceed 20 mW (13.0 dBm).

Test Personnel:	<u>Vathana F. Ven</u>	Test Date:	<u>10/04/2012</u>
Supervising Engineer: (Where Applicable)	<u>N/A</u>	Test Levels:	<u>Below the specified limits</u>
Product Standard:	<u>FCC Part 15.247, RSS-210 Annex 8</u>	Ambient Temperature:	<u>21 °C</u>
Input Voltage:	<u>Internal battery</u>	Relative Humidity:	<u>53 %</u>
Pretest Verification w/ Ambient Signals or BB Source:	<u>Ambient Signals</u>		
Atmospheric Pressure:	<u>1003 mbar</u>		

Duty Cycle

The worst-case duty cycle for typical EUT operation is shown below. The pulse train repeats over a larger than 100ms period.





Date: 6.JUN.2012 20:30:21

Average factor = $20 \cdot \text{LOG}((3.607 \cdot 2)/100) = -22.84 \text{ dB}$

Test Personnel: Vathana F. Ven

Test Date: 06/06/2012

Supervising Engineer:

(Where Applicable) N/A

Product Standard: FCC Part 15.247, RSS-210 Annex 8

Input Voltage: Internal battery

Pretest Verification w/ Ambient Signals or BB Source:

Ambient Signals

Test Levels: Below the specified limits

Ambient Temperature: 20 °C

Relative Humidity: 66 %

Atmospheric Pressure: 996 mbar

Deviations, Additions, or Exclusions: None

7 Transmitter Radiated Spurious Emissions

7.1 Method

Tests are performed in accordance with CFR47 FCC Part 15 Subpart C 15.247(d), IC RSS-210 A8.5, KDB 558074v01 06/14/2012 Section 5.4.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

Measurement Uncertainty

For radiated emissions, U_{lab} (3.5 dB at 3m and 3.5 dB at 10m below 1 GHz, and 4.2 dB at 3m above 1 GHz) $< U_{CISPR}$ (5.2 dB), which is the reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 22 and CISPR 11 (for 2006 and later revisions) Clause 11.

Sample Calculation

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 $\mu\text{V}/\text{m}$.

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

$$AF = 7.4 \text{ dB}/\text{m}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

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

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

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

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

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$

$$UF = 10^{(32 \text{ dB}\mu\text{V}/20)} = 39.8 \mu\text{V}/\text{m}$$

7.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
'DAV003	Weather Station	Davis Instruments	7400	PE80529A39 A	08/17/2011	10/17/2012
'145128	EMI Receiver 40 GHz (20 Hz - 40 GHz)	Rohde & Schwarz	ESI	8392831001	09/28/2012	09/28/2013
'ROS001	Spectrum Analyzer 20Hz - 40 GHz	Rohde & Schwartz	FSEK-30	100225	02/10/2012	02/10/2013
'REA004	3GHz High Pass Filter	Reactel, Inc	7HSX-3G/18G-S11	06-1	11/30/2011	11/30/2012
'REA006	18GHz High Pass Filter	Reactel, Inc	7HS-18G/40G K11	(06)1	08/08/2012	08/08/2013
'145-410	Cables 145-400 145-403 145-405 145-406 145-407	Huber + Suhner	10m Track A Cables	multiple	10/04/2012	10/04/2013
'145-416	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	10/04/2012	10/04/2013
'CBL030	High Frequency Cable 40GHz	Megaphase	TM40-K1K1-80	CBL030	02/08/2012	02/08/2013
'MEG005	High Frequency Cable	Megaphase	TM40-K1K1-197	8148601-001	02/07/2012	02/07/2013
PRE9	100MHz-40GHz Preamp	MITEQ	NSP4000-NFG	1260417	06/28/2012	06/28/2013
145003	Preamplifier (150 KHz to 1.3 GHz)	Hewlett Packard	8447D	2443A04077	10/04/2012	10/04/2013
'145014	Preamplifier (1 GHz to 26.5 GHz)	Hewlett Packard	8449B	3008A00232	12/16/2011	12/16/2012
'145034	BiLog Antenna (30 MHz to 1GHz)	Schaffner Chase EMC	CBL6111C	2564	02/07/2012	02/07/2013
'HORN2	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
'EMC04	ANTENNA, RIDGED GUIDE, 18-40 GHZ	EMCO	3116	2090	02/08/2012	02/08/2013
145106'	BiLog Antenna (30MHz - 5GHz)	Sunol Sciences	JB5	A111003	09/04/2012	09/04/2013

Software Utilized:

Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10
C5	Teseq	Build 5.26.00.3

7.3 Results:

7.3

The sample tested was found to comply.

7.3

In any 100 kHz bandwidth outside the frequency band, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in 15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see 15.205(c)).

7.3

FCC Part 15.209(a) & RSS-210 A8.5 – Restricted Band Radiated Spurious/Harmonics Limits

7.3 Frequency	Field Strength		Test Distance
7.3 (MHz)	μV/m	dBμV/m	(meters)
7.3 30–88	100	40.00	3
7.3 88–216	150	43.52	3
7.3 216–960	200	46.02	3
7.3 Above 960	500	53.98	3

7.3

FCC Part 15.247(d) & RSS-210 A8.5 – Non Restricted Band Radiated Spurious/Harmonics Limits.

7.3

7.3

7.3

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7.3

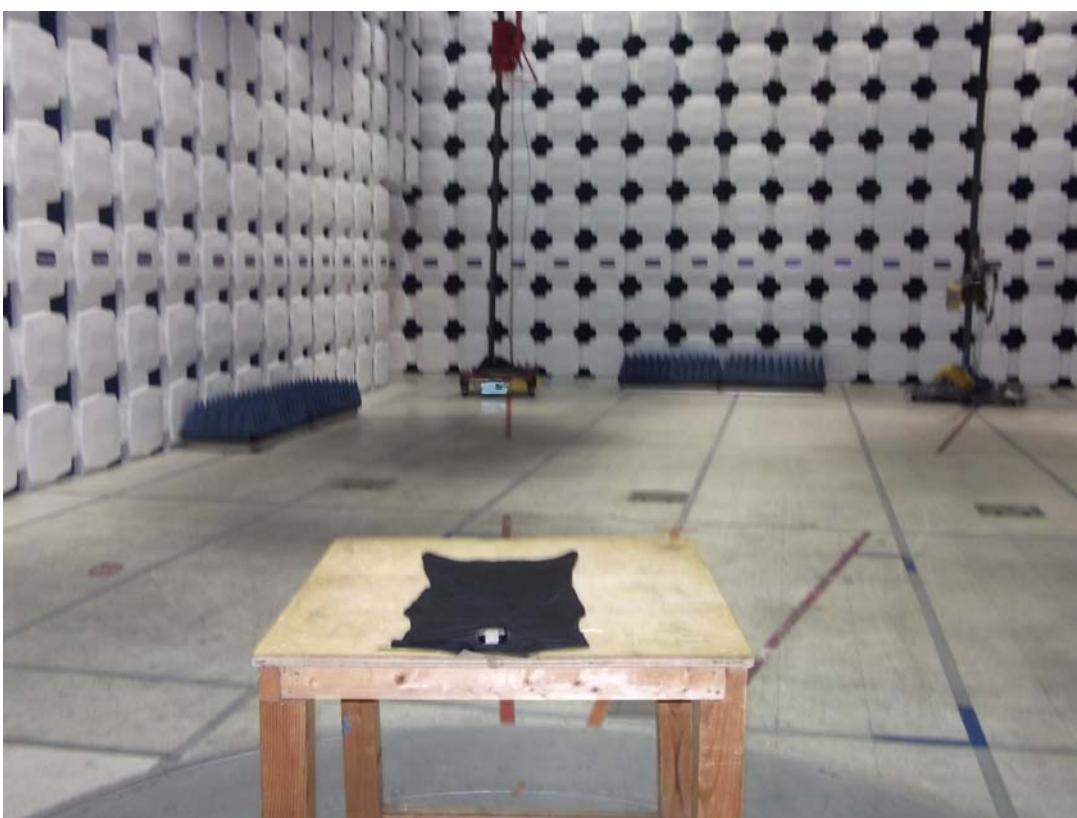
7.3

7.3

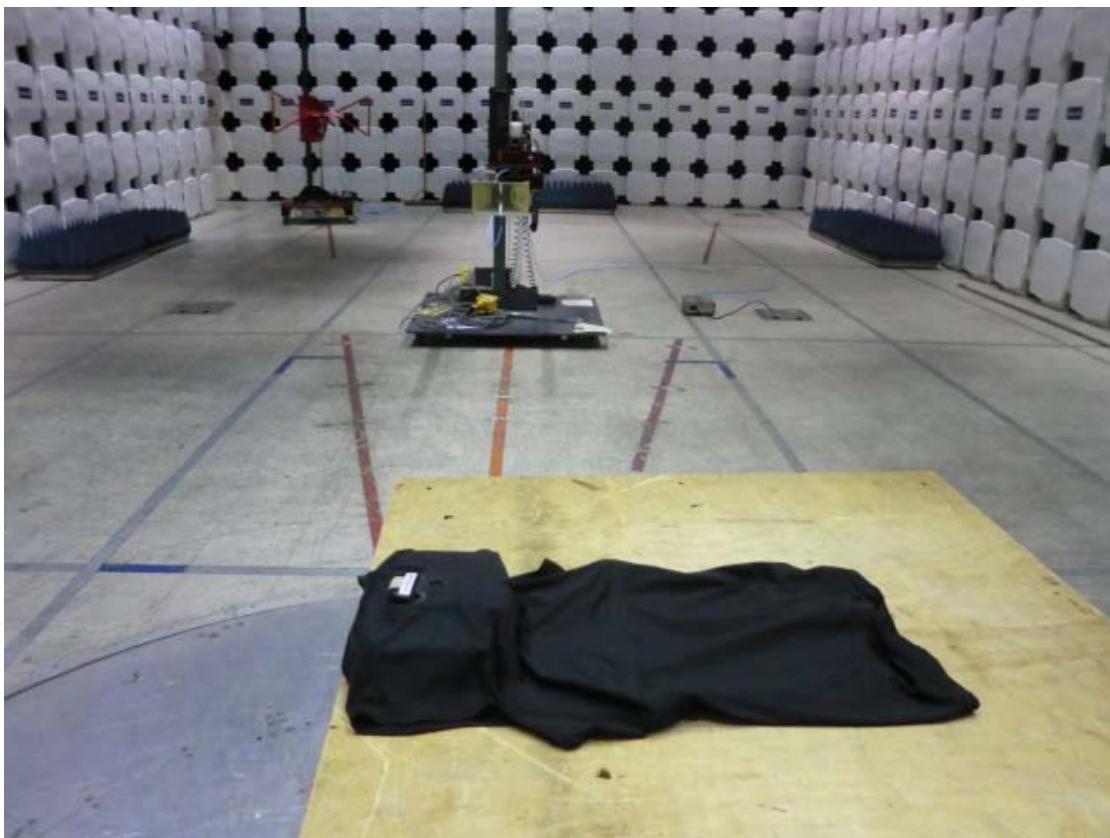
7.3

7.3

7.3

7.4 Setup Photographs:

Scan from 30-1000MHz



Scan from 1-18 GHz



Hand scan from 18-25GHz

7.5 Test Data:

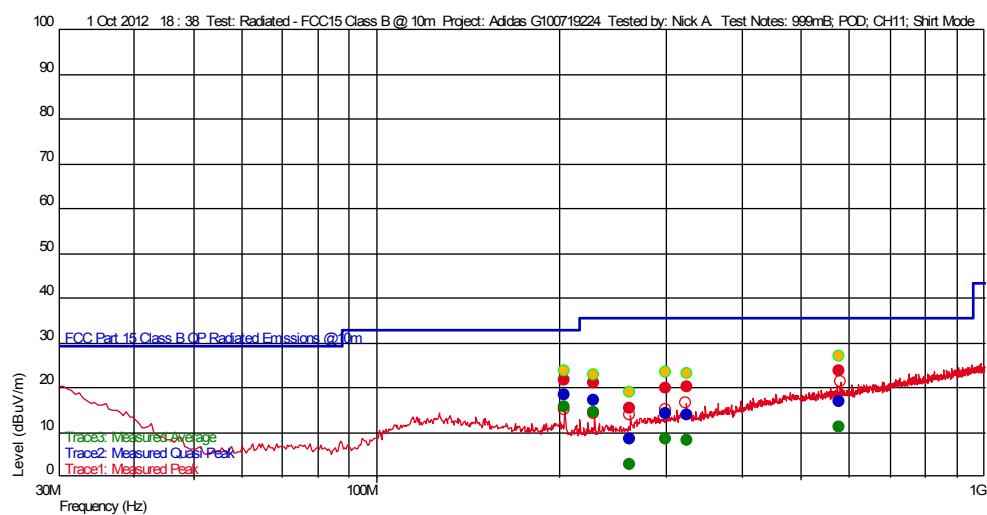
Channel 11 Spurious Emissions From 30-1000MHz

Test Information

Test Details User Entry
 Test: Radiated - FCC15 Class B @ 10m
 Project: Adidas G100719224
 Test Notes: 999mB; POD; CH11; Shirt Mode
 Temperature: 25c
 Humidity: 41%
 Tested by: Nick A.
 Test Started: 1 Oct 2012 18 : 38

Additional Information

Prescan Emission Graph



- Measured Peak Value
- Measured Quasi Peak Value
- Measured Average Value
- Maximum Value of Mast and Turntable
- Swept Peak Data
- Swept Quasi Peak Data
- Swept Average Data

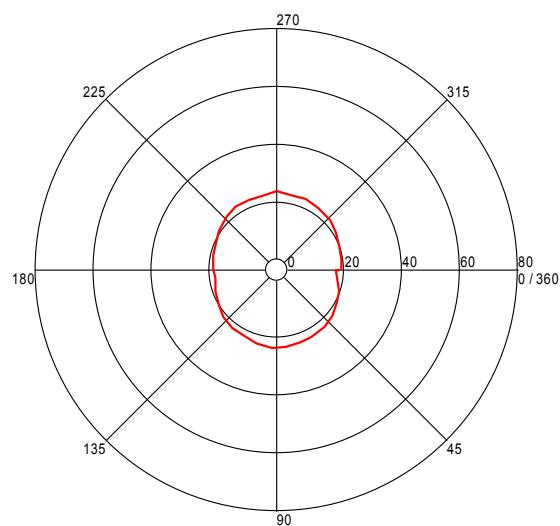
Emissions Test Data

Trace2: Measured Quasi Peak

Frequency(Hz)	Level(dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
261.018035782 M	8.53	12.24	-	35.540	-27.01		39	2.06	120 k	
324.139679307 M	13.81	14.20	-	35.540	-21.73	--	7	2.92	120 k	
300.067134411 M	14.24	13.70	-	35.540	-21.30	--	0	2.22	120 k	
579.333867255 M	16.93	18.90	-	35.540	-18.61		18	3.99	120 k	
227.999999894 M	17.10	11.22	-	35.540	-18.44	--	94	4.00	120 k	
204.02044097 M	18.27	11.37	-	33.040	-14.77	--	106	3.79	120 k	
		2	24.306							

Azimuth Plots

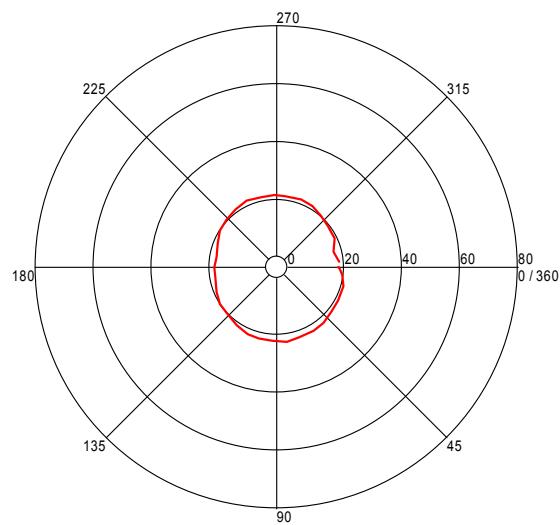
Turntable Plot (204.02044097 MHz)



All Polarities

Azimuth (Degrees)

Turntable Plot (227.999999894 MHz)

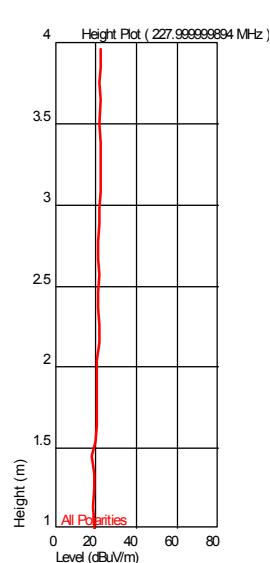
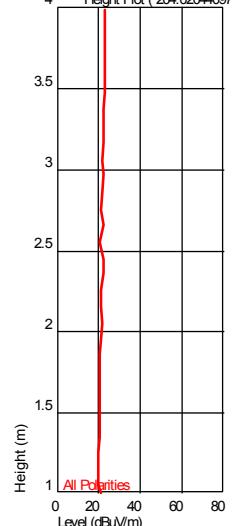


All Polarities

Azimuth (Degrees)

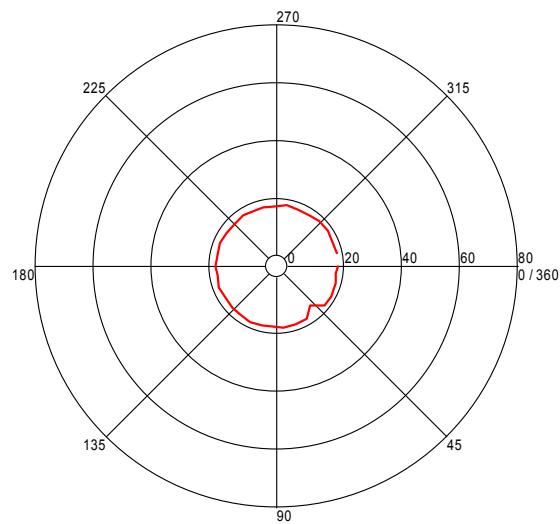
Turntable Plots

Height Plot (204.02044097 MHz)

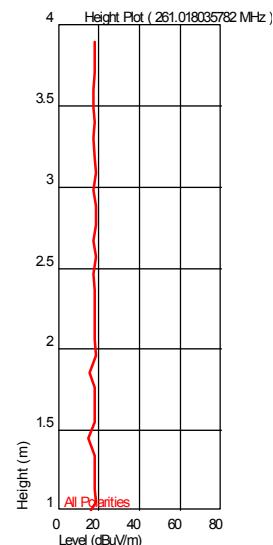


All Polarities

Turntable Plot (261.018035782 MHz)



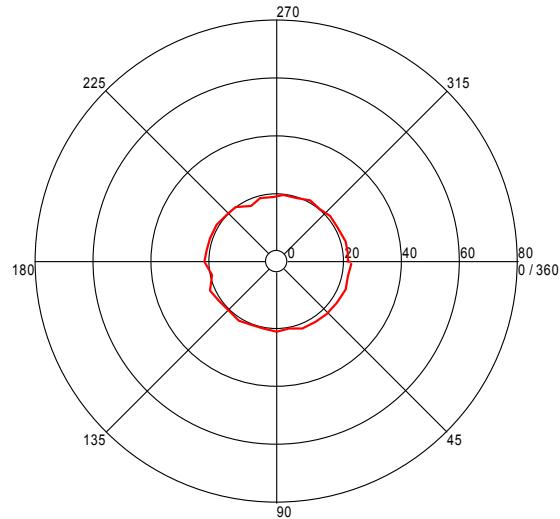
Level (dBuV/m)



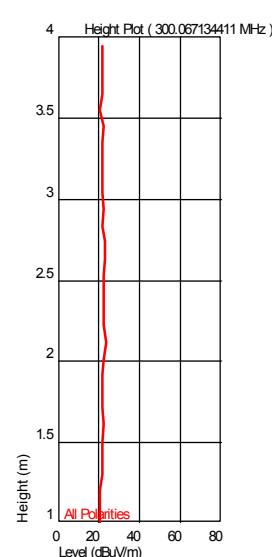
All Polarities

Azimuth (Degrees)

Turntable Plot (300.067134411 MHz)



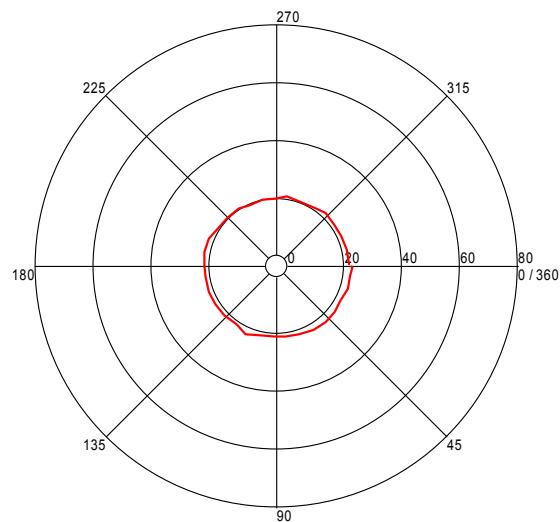
Level (dBuV/m)



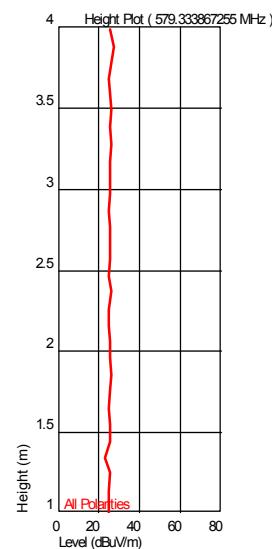
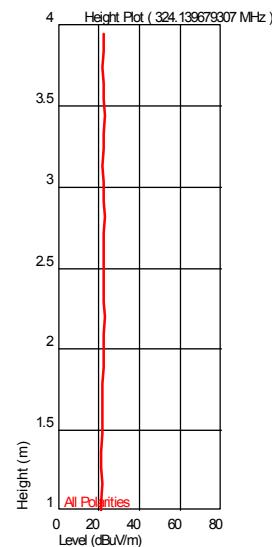
All Polarities

Azimuth (Degrees)

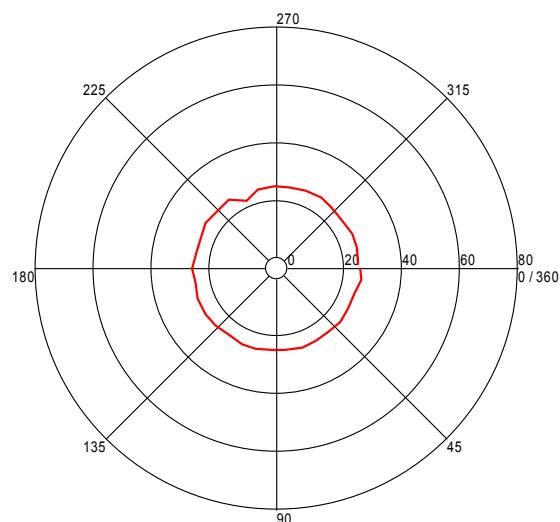
Turntable Plot (324.139679307 MHz)



Level (dBuV/m)



Turntable Plot (579.333867255 MHz)



Level (dBuV/m)

Azimuth (Degrees)

All Polarities

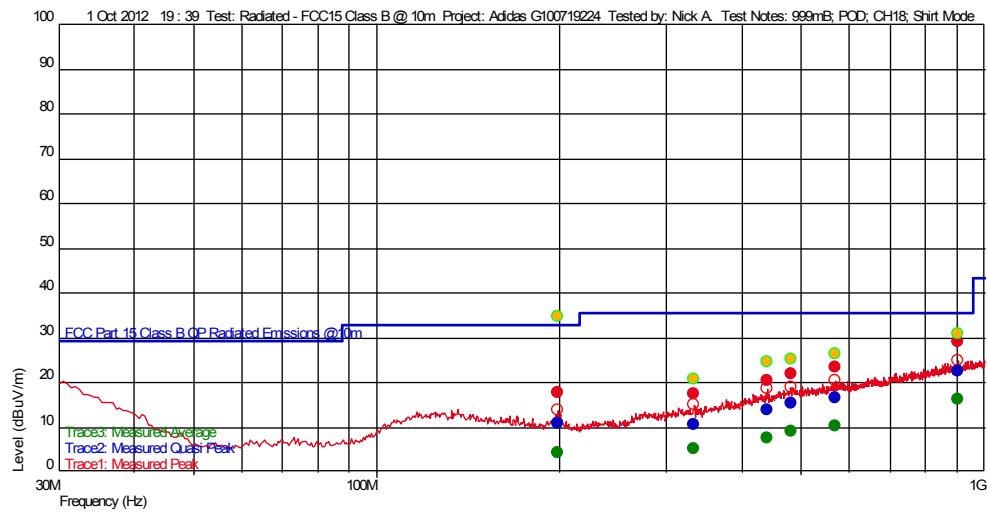
Channel 18 Spurious Emissions From 30-1000MHz

Test Information

Test Details User Entry
 Test: Radiated - FCC15 Class B @ 10m
 Project: Adidas G100719224
 Test Notes: 999mB; POD; CH18; Shirt Mode
 Temperature: 25c
 Humidity: 41%
 Tested by: Nick A.
 Test Started: 1 Oct 2012 19 : 39

Additional Information

Prescan Emission Graph



- Measured Peak Value
- Measured Quasi Peak Value
- Measured Average Value
- Maximum Value of Mast and Turntable
- Swept Peak Data
- Swept Quasi Peak Data
- Swept Average Data

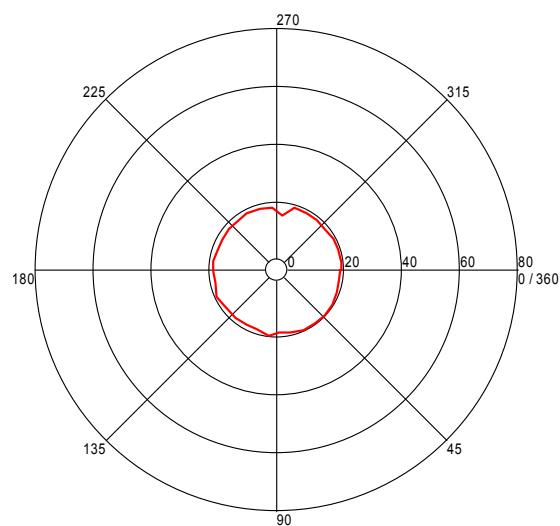
Emissions Test Data

Trace2: Measured Quasi Peak

Frequency(Hz)	Level(dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
333.247294603 M	10.64	14.20	-	35.540	-24.90	--	171	2.48	120 k	
198.552104679 M	10.81	12.75	-	33.040	-22.23		87	1.56	120 k	
439.197194635 M	13.86	16.70	-	35.540	-21.68	--	314	3.29	120 k	
482.0789581 M	15.30	17.94	-	35.540	-20.24		222	3.56	120 k	
568.79779582 M	16.70	18.87	-	35.540	-18.84	--	245	1.05	120 k	
905.710220555 M	22.47	22.31	-	35.540	-13.07	--	99	3.20	120 k	
		4	22.664							

Azimuth Plots

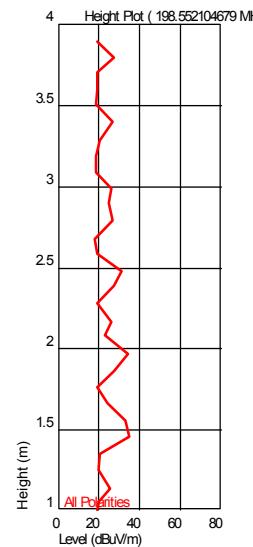
Turntable Plot (198.552104679 MHz)



Level (dBuV/m)

Turntable Plots

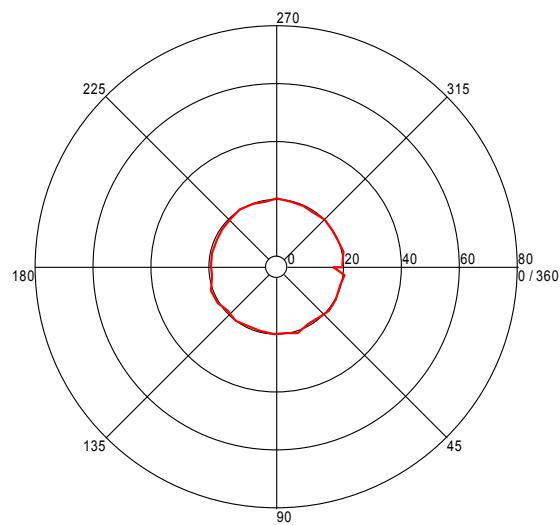
Height Plot (198.552104679 MHz)

Height (m)
Level (dBuV/m)

All Polarities

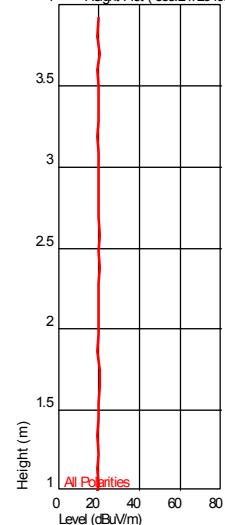
Azimuth (Degrees)

Turntable Plot (333.247294603 MHz)



Level (dBuV/m)

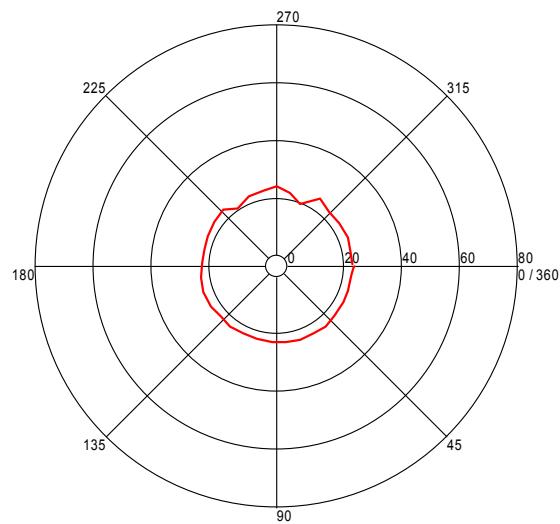
Height Plot (333.247294603 MHz)

Height (m)
Level (dBuV/m)

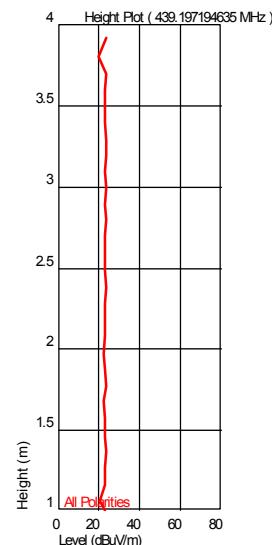
All Polarities

Azimuth (Degrees)

Turntable Plot (439.197194635 MHz)



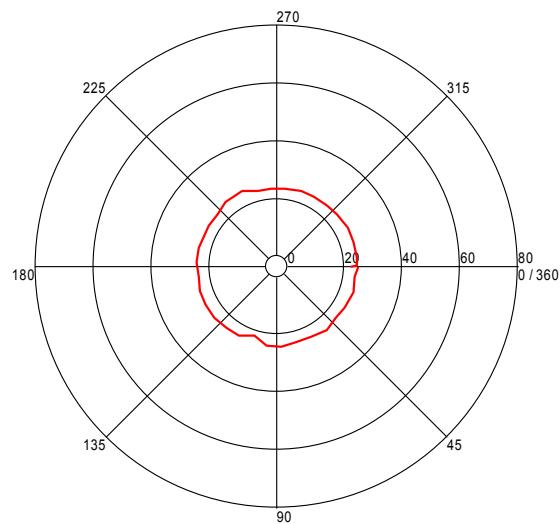
Level (dBuV/m)



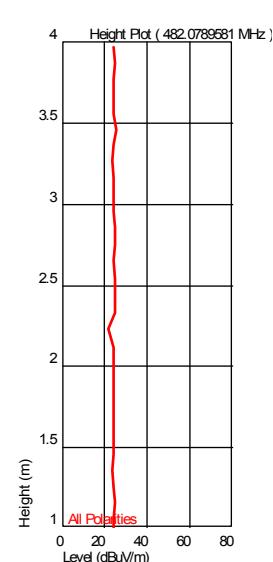
All Polarities

Azimuth (Degrees)

Turntable Plot (482.0789581 MHz)



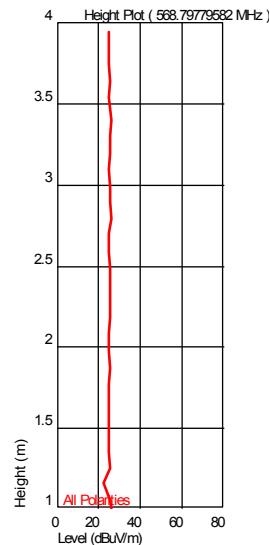
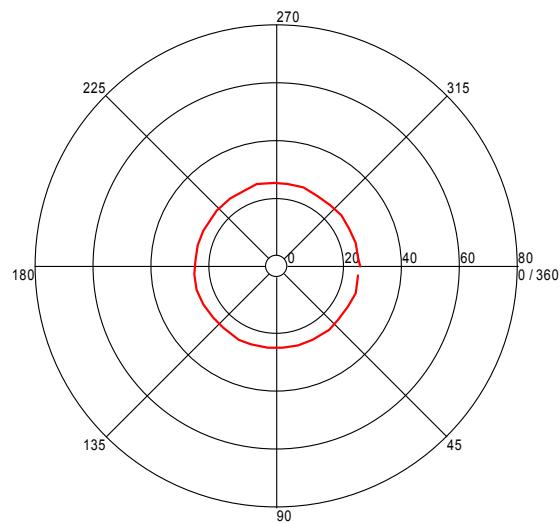
Level (dBuV/m)



All Polarities

Azimuth (Degrees)

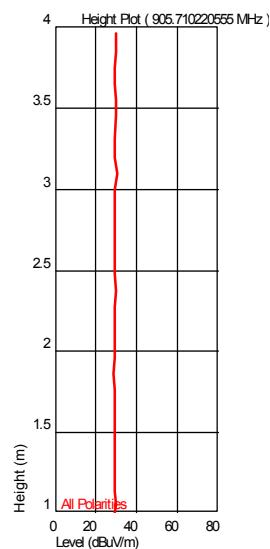
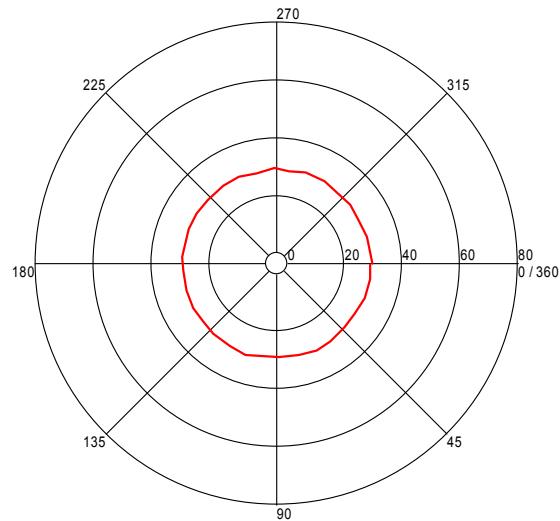
Turntable Plot (568.79779582 MHz)



All Polarities

Azimuth (Degrees)

Turntable Plot (905.710220555 MHz)



All Polarities

Azimuth (Degrees)

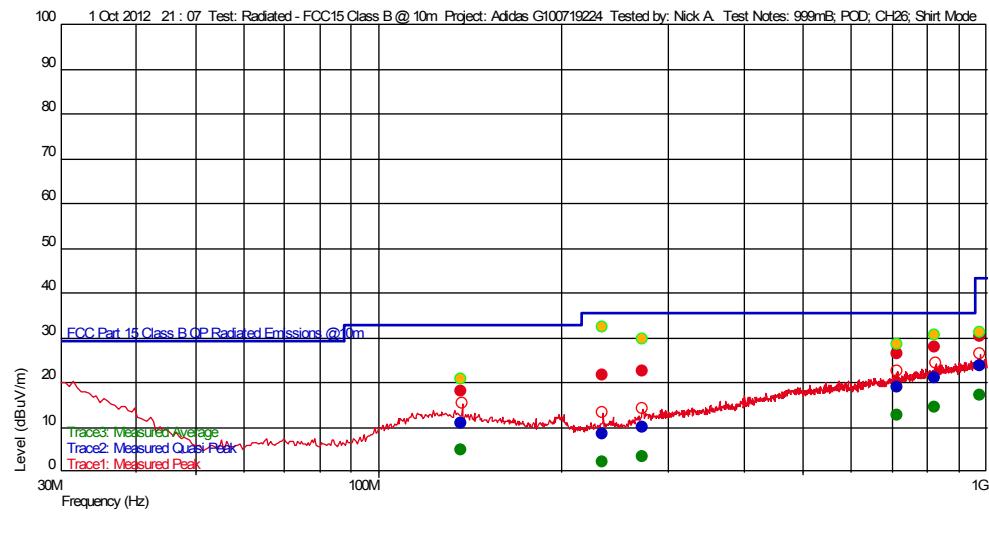
Channel 26 Spurious Emissions From 30-1000MHz

Test Information

Test Details User Entry
 Test: Radiated - FCC15 Class B @ 10m
 Project: Adidas G100719224
 Test Notes: 999mB; POD; CH26; Shirt Mode
 Temperature: 25c
 Humidity: 41%
 Tested by: Nick A.
 Test Started: 1 Oct 2012 21 : 07

Additional Information

Prescan Emission Graph



- Measured Peak Value
- Measured Quasi Peak Value
- Measured Average Value
- Maximum Value of Mast and Turntable
- Swept Peak Data
- Swept Quasi Peak Data
- Swept Average Data

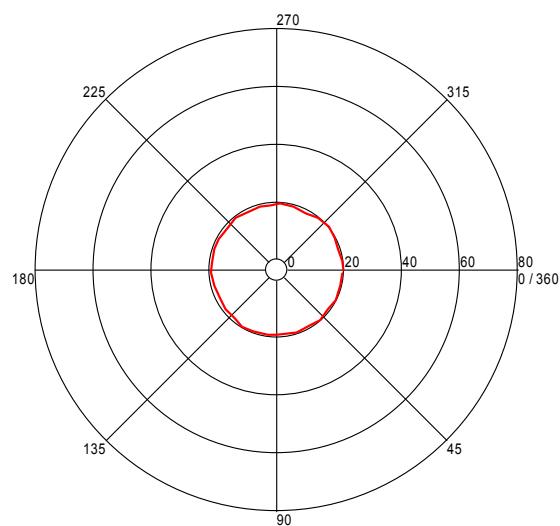
Emissions Test Data

Trace2: Measured Quasi Peak

Frequency(Hz)	Level(dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
233.447694958 M	8.57	11.43	-	35.540	-26.97		1	1.15	120 k	
272.280360721 M	10.11	13.39	-	24.205	35.540	-25.43	331	2.07	120 k	
136.780962325 M	10.96	13.67	-	24.111	33.040	-22.08	308	1.26	120 k	
975.501803802 M	23.75	22.99	-	24.883	43.540	-19.79	249	1.76	120 k	
715.068937994 M	18.92	20.60	-	22.368	35.540	-16.62	39	2.96	120 k	
825.109619094 M	20.98	21.70	-	23.615	35.540	-14.56	5	3.09	120 k	
		2	23.111							

Azimuth Plots

Turntable Plot (136.780962325 MHz)

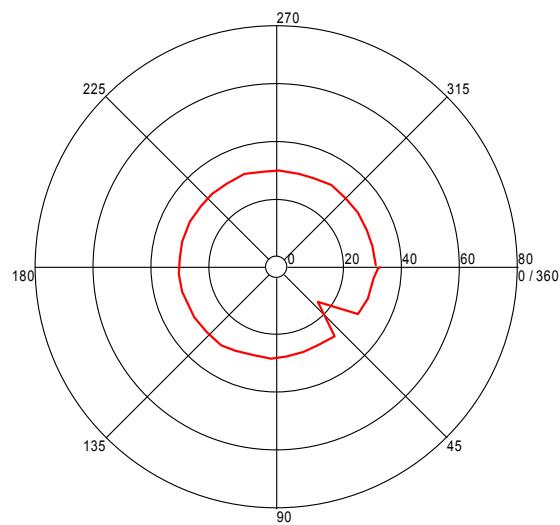


All Polarities

Level (dBuV/m)

Azimuth (Degrees)

Turntable Plot (233.447694958 MHz)



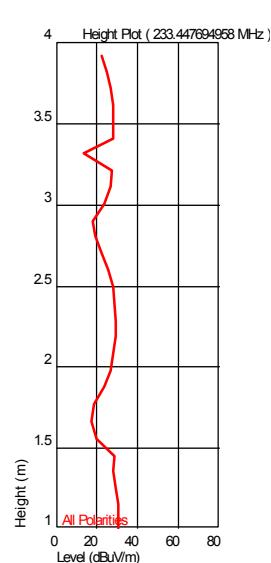
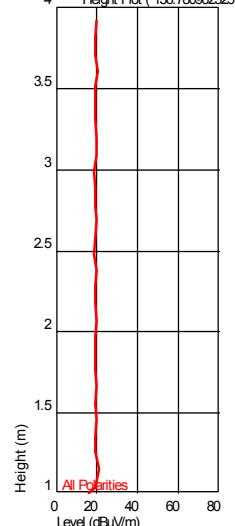
All Polarities

Level (dBuV/m)

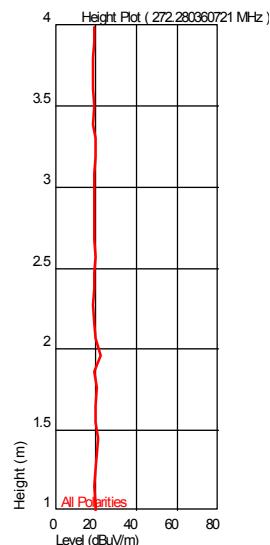
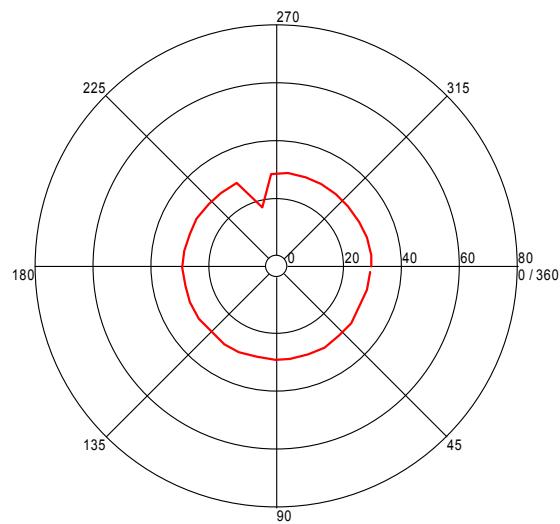
Azimuth (Degrees)

Turntable Plots

Height Plot (136.780962325 MHz)



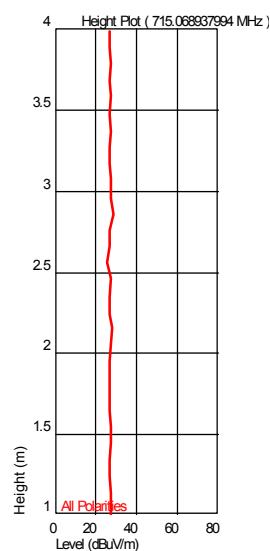
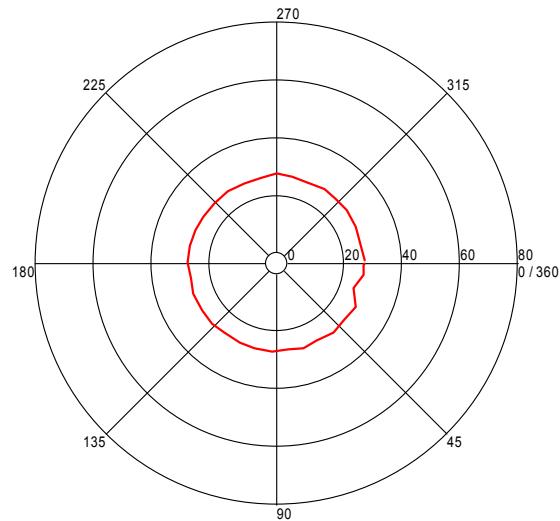
Turntable Plot (272.280360721 MHz)



All Polarities

Azimuth (Degrees)

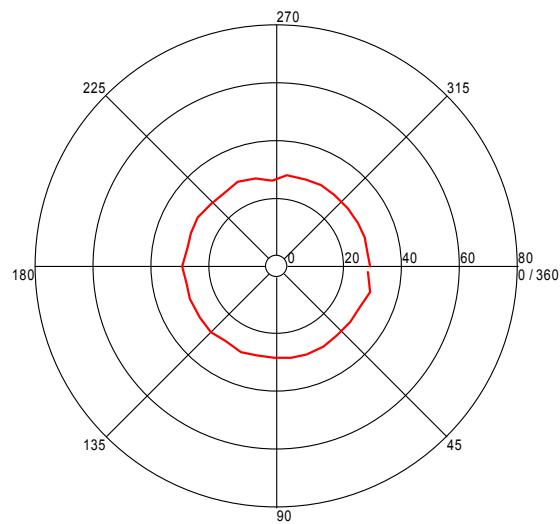
Turntable Plot (715.068937994 MHz)



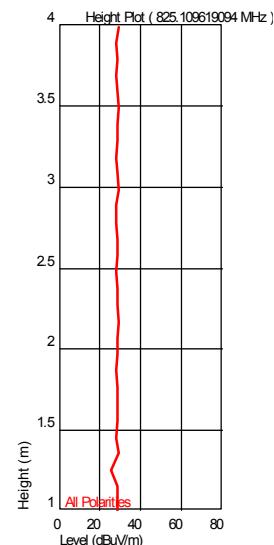
All Polarities

Azimuth (Degrees)

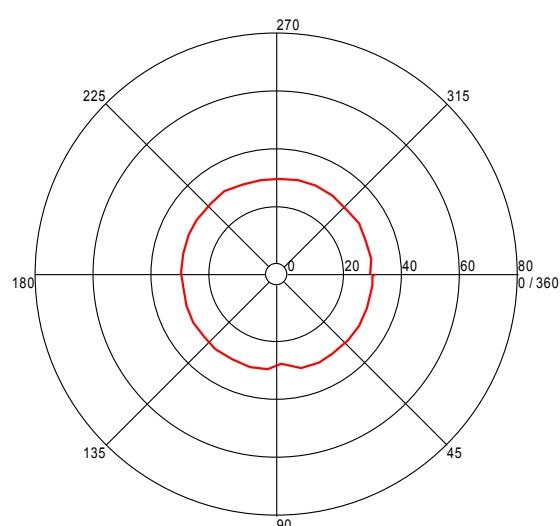
Turntable Plot (825.109619094 MHz)



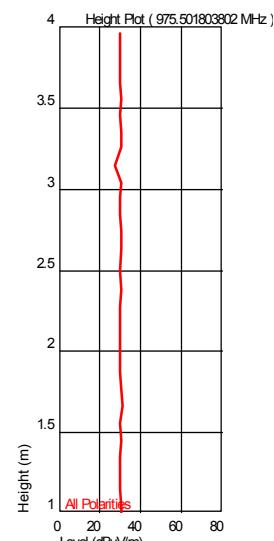
Level (dBuV/m)



Turntable Plot (975.501803802 MHz)



Level (dBuV/m)



All Polarities

Azimuth (Degrees)

Channel 11, 18, and 26 Spurious Emissions above 1GHz

Special Radiated Emissions

Company: Adidas International
 Model #: POD
 Serial #: P18
 Engineers: Vathana Ven
 Project #: G10071924
 Date(s): 10/04/12 10/05/12
 Standard: FCC Part 15 Subpart C 15.247
 Receiver: R&S ESI (145-148) 09-28-2013
 PreAmp: PRE145014 12-16-2012.txt
 PreAmp Used? (Y or N): Y
 Voltage/Frequency: 3.7VDC
 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 dB1/m)	Cable Loss dB	Pre-amp Factor dB	Distance Factor dB	Net dB(uV/m)	Limit dB(uV/m)	Margin dB	Bandwidth	FCC	IC	Harmonic?
Note: Spurious Emissions Reference. Fundamental frequencies (modulated) at 3 meters with no pre-amp														
PK	H	2405.000	61.63	28.33	5.86	0.00	0.00	95.82	-	-	100/300 kHz			No Pre-Amp
PK	H	2440.000	60.99	28.43	5.91	0.00	0.00	95.33	-	-	100/300 kHz			No Pre-Amp
PK	H	2480.000	60.49	28.54	5.97	0.00	0.00	95.00	-	-	100/300 kHz			No Pre-Amp
Tx CH 11, F = 2405 MHz, Spurious emissions														
PK	V	4810.000	40.32	33.08	8.59	34.54	6.02	41.42	74.00	-32.58	1/3 MHz	RB	Noise Floor	1.5meter
AVG	V	4810.000	26.90	33.08	8.59	34.54	6.02	28.00	54.00	-26.00	1/3 MHz	RB	Noise Floor	1.5meter
PK	V	7215.000	28.89	36.12	10.92	35.66	6.02	34.25	92.82	-58.57	100/300 kHz		Noise Floor	1.5meter
PK	V	9620.000	27.41	37.89	12.70	35.85	6.02	36.13	92.82	-56.69	100/300 kHz		Noise Floor	1.5meter
PK	V	12025.000	37.89	39.52	15.01	35.38	6.02	51.02	74.00	-22.98	1/3 MHz	RB	Noise Floor	1.5meter
AVG	V	12025.000	25.38	39.52	15.01	35.38	6.02	38.51	54.00	-15.49	1/3 MHz	RB	Noise Floor	1.5meter
PK	V	14430.000	24.97	42.14	15.13	34.64	6.02	41.57	92.82	-51.25	100/300 kHz		Noise Floor	1.5meter
PK	V	16835.000	20.55	39.85	17.99	37.74	6.02	34.64	92.82	-58.18	100/300 kHz		Noise Floor	1.5meter
Tx CH 18, F = 2440 MHz, Spurious emissions														
PK	V	4880.000	39.54	33.13	8.67	34.41	6.02	40.91	74.00	-33.09	1/3 MHz		Noise Floor	1.5meter
AVG	V	4880.000	27.11	33.13	8.67	34.41	6.02	28.48	54.00	-25.52	1/3 MHz		Noise Floor	1.5meter
PK	V	7320.000	39.89	36.46	11.06	35.73	6.02	45.66	74.00	-28.34	1/3 MHz		Noise Floor	1.5meter
AVG	V	7320.000	26.61	36.46	11.06	35.73	6.02	32.38	54.00	-21.62	1/3 MHz		Noise Floor	1.5meter
PK	V	9760.000	29.04	38.04	13.03	35.35	6.02	38.74	92.98	-54.24	100/300 kHz		Noise Floor	1.5meter
PK	V	12200.000	37.31	39.18	14.83	35.45	6.02	49.86	74.00	-24.14	1/3 MHz	RB	Noise Floor	1.5meter
AVG	V	12200.000	24.70	39.18	14.83	35.45	6.02	37.25	54.00	-16.75	1/3 MHz	RB	Noise Floor	1.5meter
PK	V	14640.000	24.37	41.60	15.24	34.87	6.02	40.32	92.98	-52.66	100/300 kHz		Noise Floor	1.5meter
PK	V	17080.000	23.25	40.72	18.81	37.60	6.02	39.16	92.98	-53.82	100/300 kHz		Noise Floor	1.5meter
Tx CH 26, F = 2480 MHz, Spurious emissions														
PK	V	4960.000	39.92	33.30	8.76	34.25	6.02	41.70	74.00	-32.30	1/3 MHz	RB	Noise Floor	1.5meter
AVG	V	4960.000	27.76	33.30	8.76	34.25	6.02	29.54	54.00	-24.46	1/3 MHz	RB	Noise Floor	1.5meter
PK	V	7440.000	39.26	36.58	11.22	35.81	6.02	45.23	74.00	-28.77	1/3 MHz	RB	Noise Floor	1.5meter
AVG	V	7440.000	26.87	36.58	11.22	35.81	6.02	32.84	54.00	-21.16	1/3 MHz	RB	Noise Floor	1.5meter
PK	V	9920.000	28.12	38.27	13.42	34.78	6.02	39.00	92.51	-53.51	100/300 kHz		Noise Floor	1.5meter
PK	V	12400.000	38.20	38.98	14.64	35.52	6.02	50.28	74.00	-23.72	1/3 MHz	RB	Noise Floor	1.5meter
AVG	V	12400.000	25.35	38.98	14.64	35.52	6.02	37.43	54.00	-16.57	1/3 MHz	RB	Noise Floor	1.5meter
PK	V	14880.000	25.18	40.37	15.67	35.32	6.02	39.88	92.51	-52.63	100/300 kHz		Noise Floor	1.5meter
PK	V	17360.000	24.21	42.09	20.07	36.91	6.02	43.44	92.51	-49.07	100/300 kHz		Noise Floor	1.5meter

Average factor = $20 \times \log((3.607^2)/100) = 22.84$ dB

Hand scans were performed from 18-25GHz at a distance of <1m, no emissions were detected above the measuring equipment noise floor.

Test Personnel: Nicholas Abbondante
 Vathana Ven

Supervising Engineer: (Where Applicable) N/A
 Product Standard: FCC Part 15.247, RSS-210 Annex 8
 Input Voltage: Internal Battery
 Pretest Verification w/ Ambient Signals or BB
 Source: Ambient Signals

Test Date: 10/01/2012, 10/04/2012, 10/05/2012

Test Levels: Below the specified limits
 Ambient Temperature: 25, 21 °C
 Relative Humidity: 41, 53 %
 Atmospheric Pressure: 999, 1003 mbar

Deviations, Additions, or Exclusions: None

8 6 dB Bandwidth

8.1 Method

Tests are performed in accordance with ANSI C63.4:2003, CFR47 FCC Part 15 Subpart C 15.247, IC RSS-210 Issue 8 December 2010, IC RSS-Gen Issue 3 December 2010, and KDB 558074v01 06/14/2012.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

8.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	10/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	09/04/2011	09/04/2012
145128'	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESI	8392831001	08/23/2011	08/23/2012

Software Utilized:

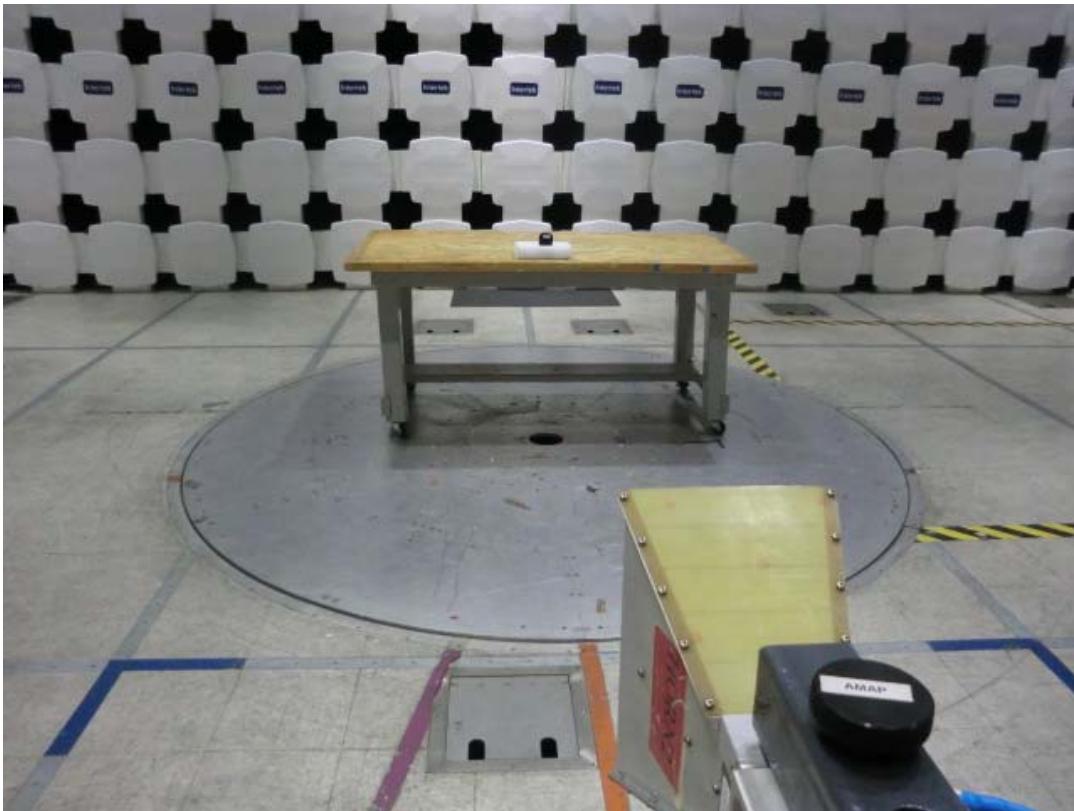
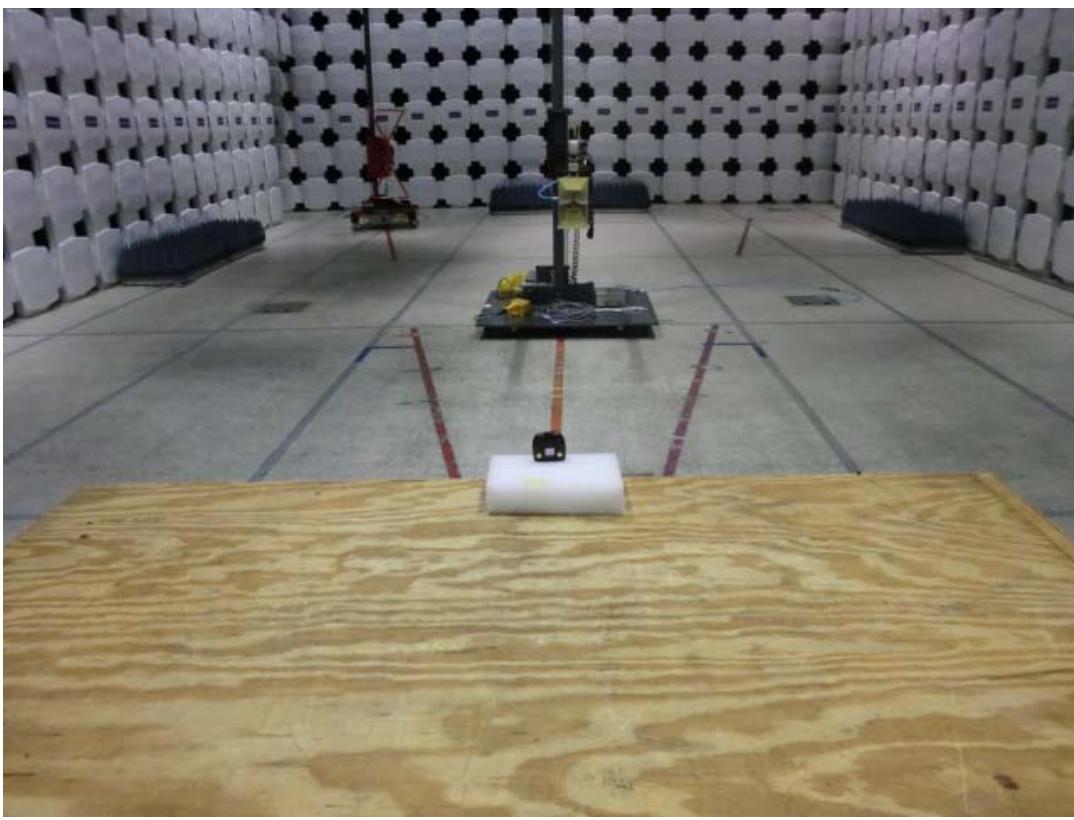
Name	Manufacturer	Version
None		

8.3 Results:

The 99% power bandwidth, or 6 dB bandwidth, must not be less than 500 kHz. The sample tested was found to comply. Results for bandwidth are expected to be the same with and without the shirt.

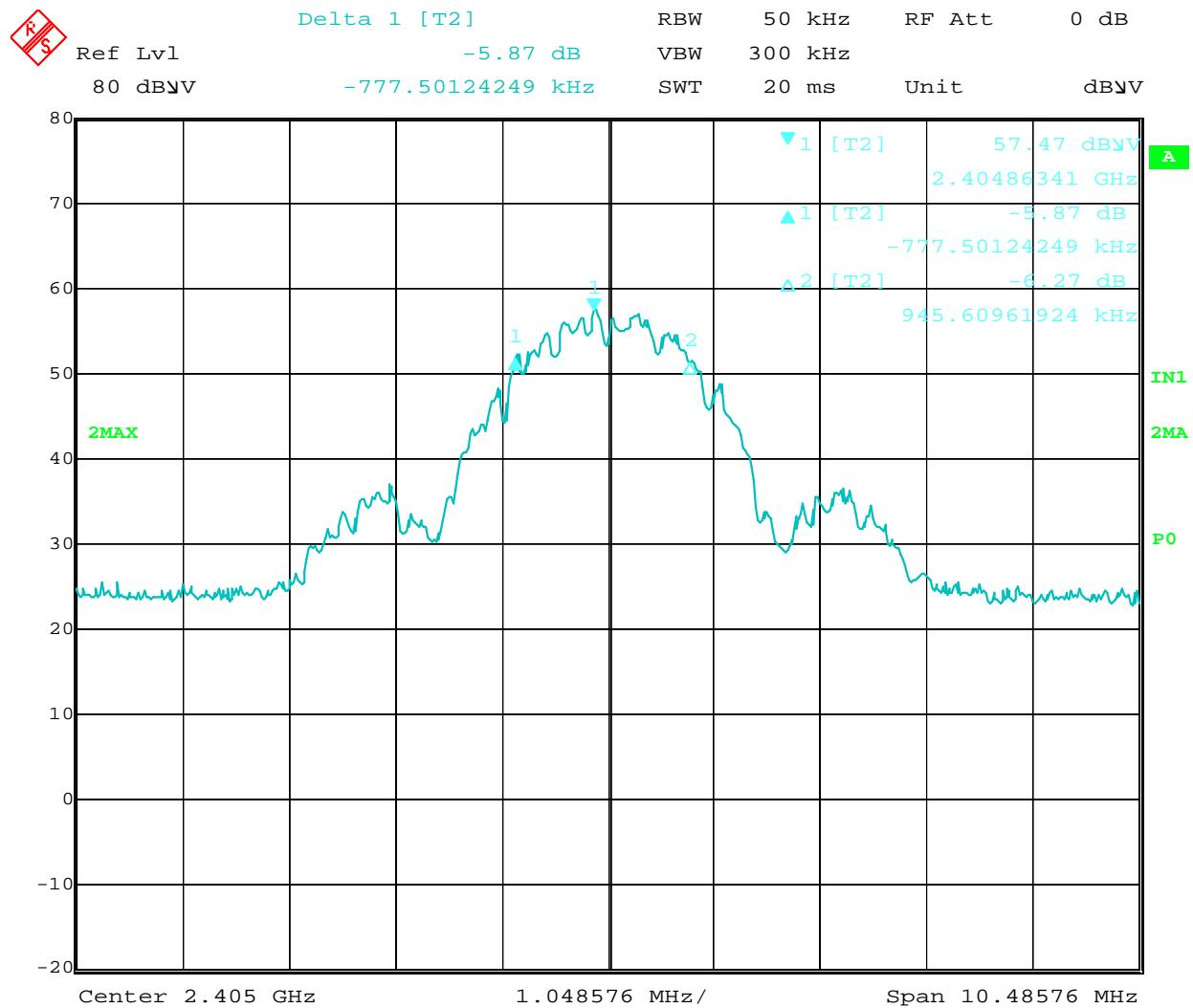
Channels	6 dB Bandwidth	99% Power Bandwidth
Channel 11 (2405 MHz)	1.724 MHz	2.879 MHz
Channel 18 (2440 MHz)	1.597 MHz	2.858 MHz
Channel 26 (2480 MHz)	1.724 MHz	2.837 MHz

Plots were taken using an RBW of ~1-5% of the measured emission bandwidth, per KDB 558074v01 06/14/2012 and IC RSS-Gen Section 4.6.2.

8.4 Setup Photographs:

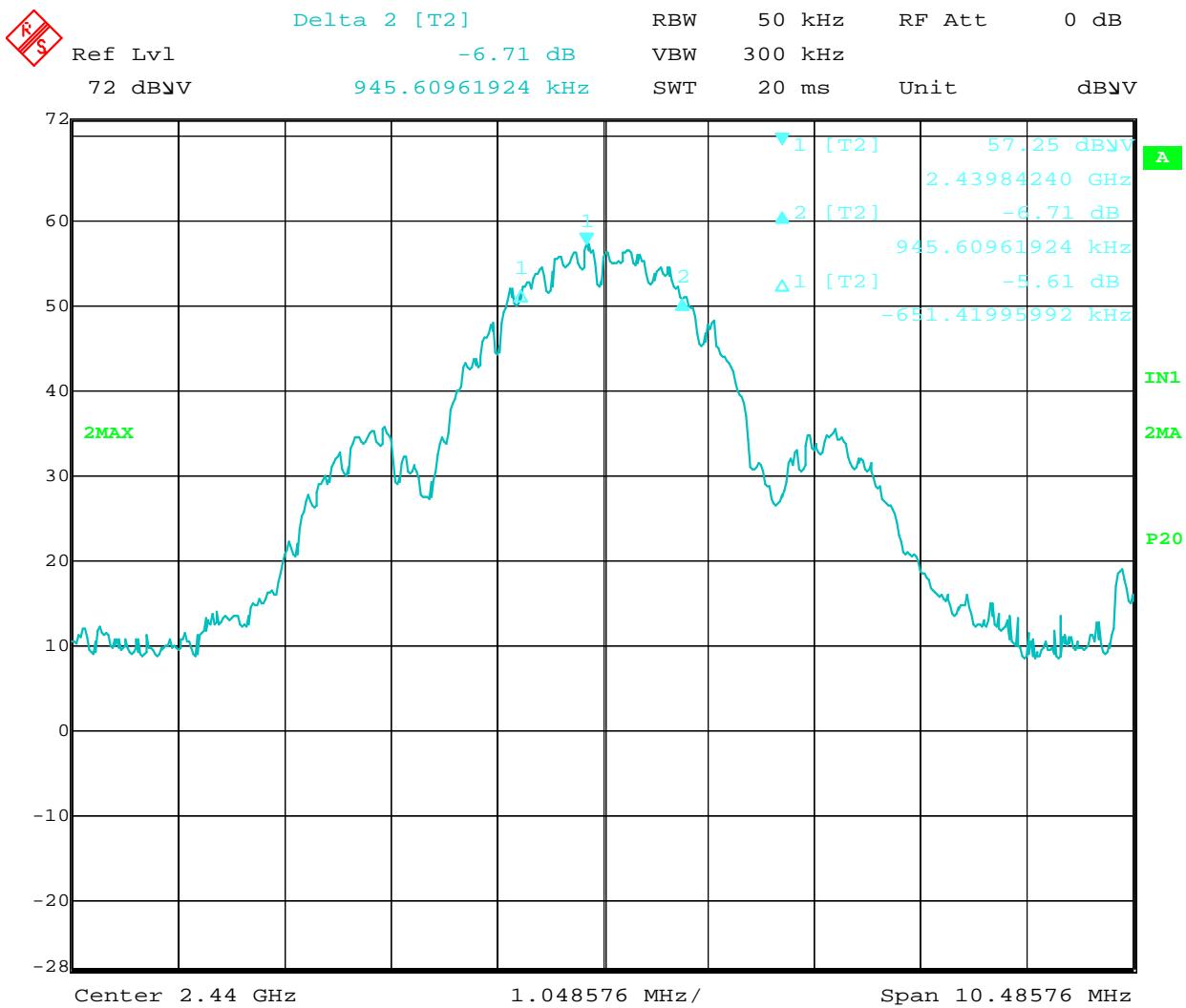
8.5 Test Data:

6 dB Bandwidth (Channel 11)



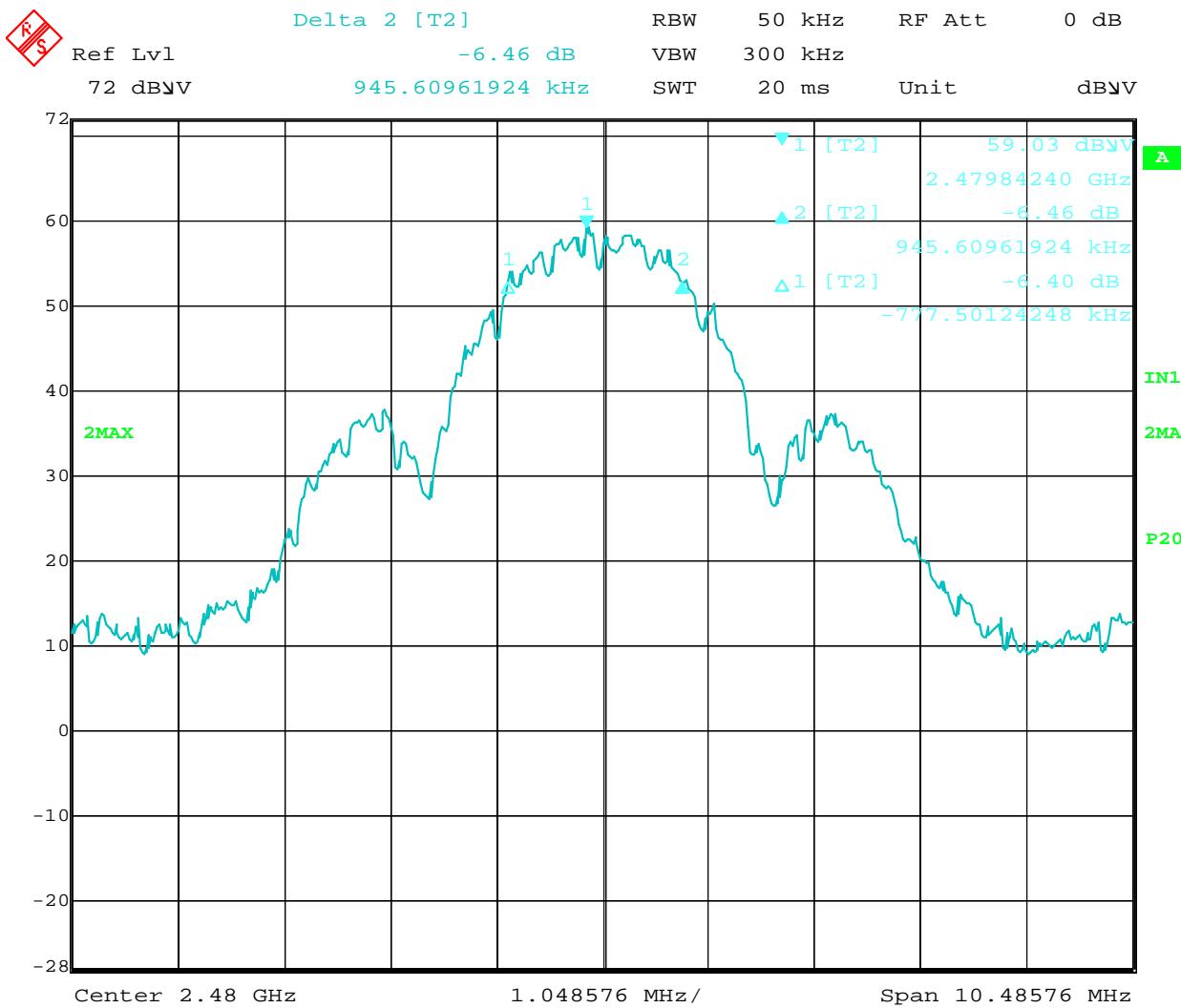
Date: 29.MAY.2012 19:13:04

6 dB bandwidth (Channel 18)

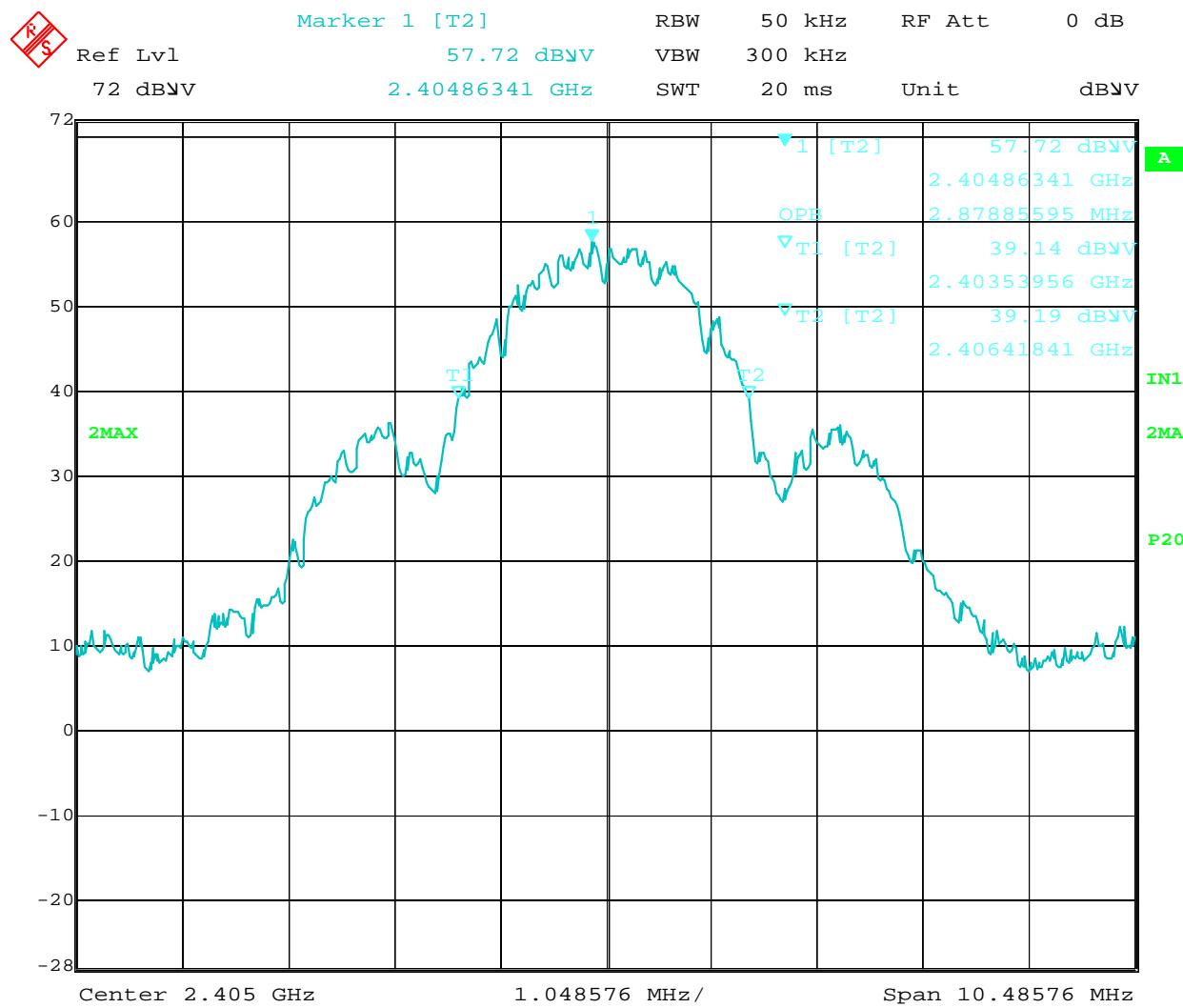


Date: 29.MAY.2012 19:46:30

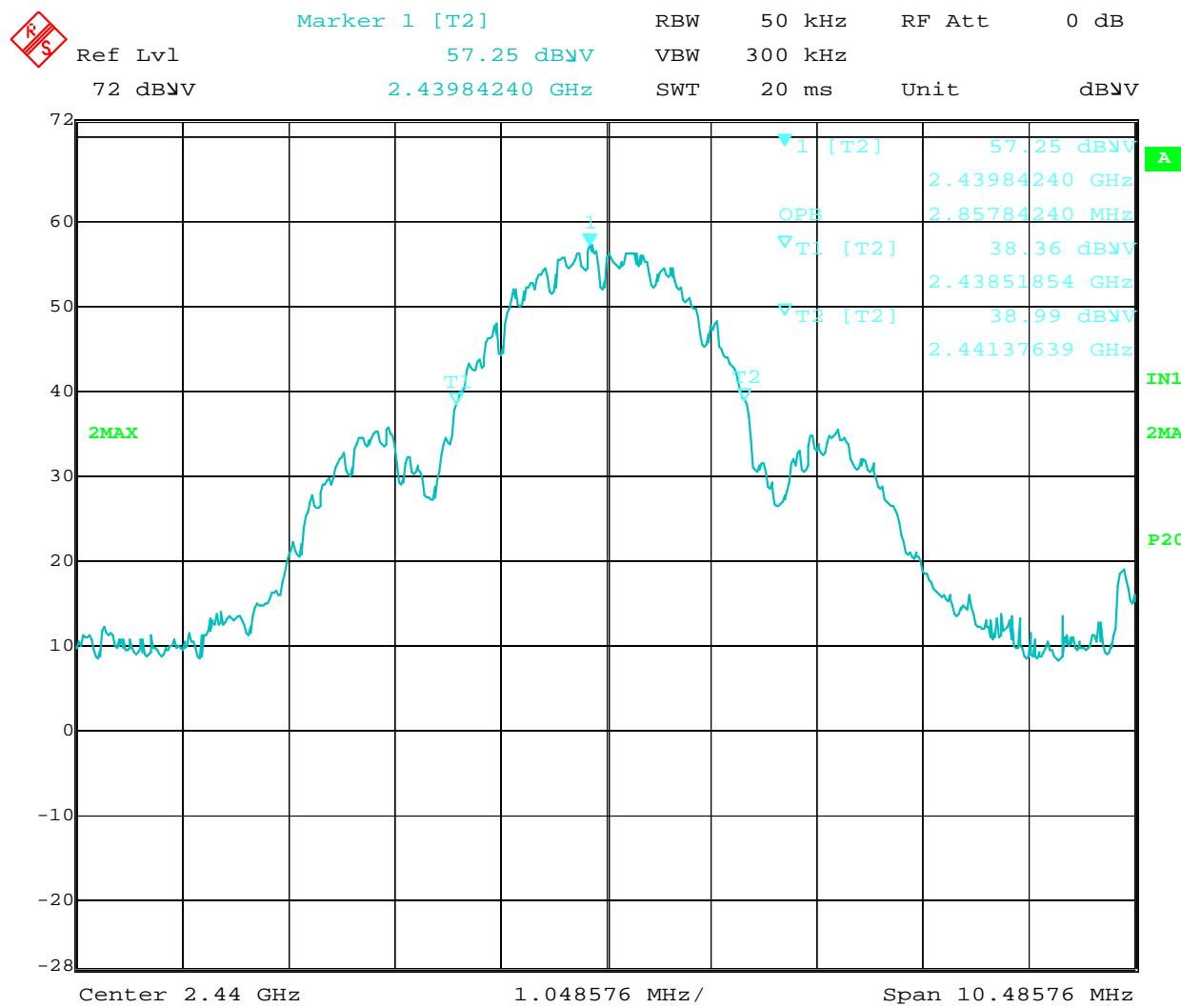
6 dB bandwidth (Channel 26)



99% Power Bandwidth (Channel 11)

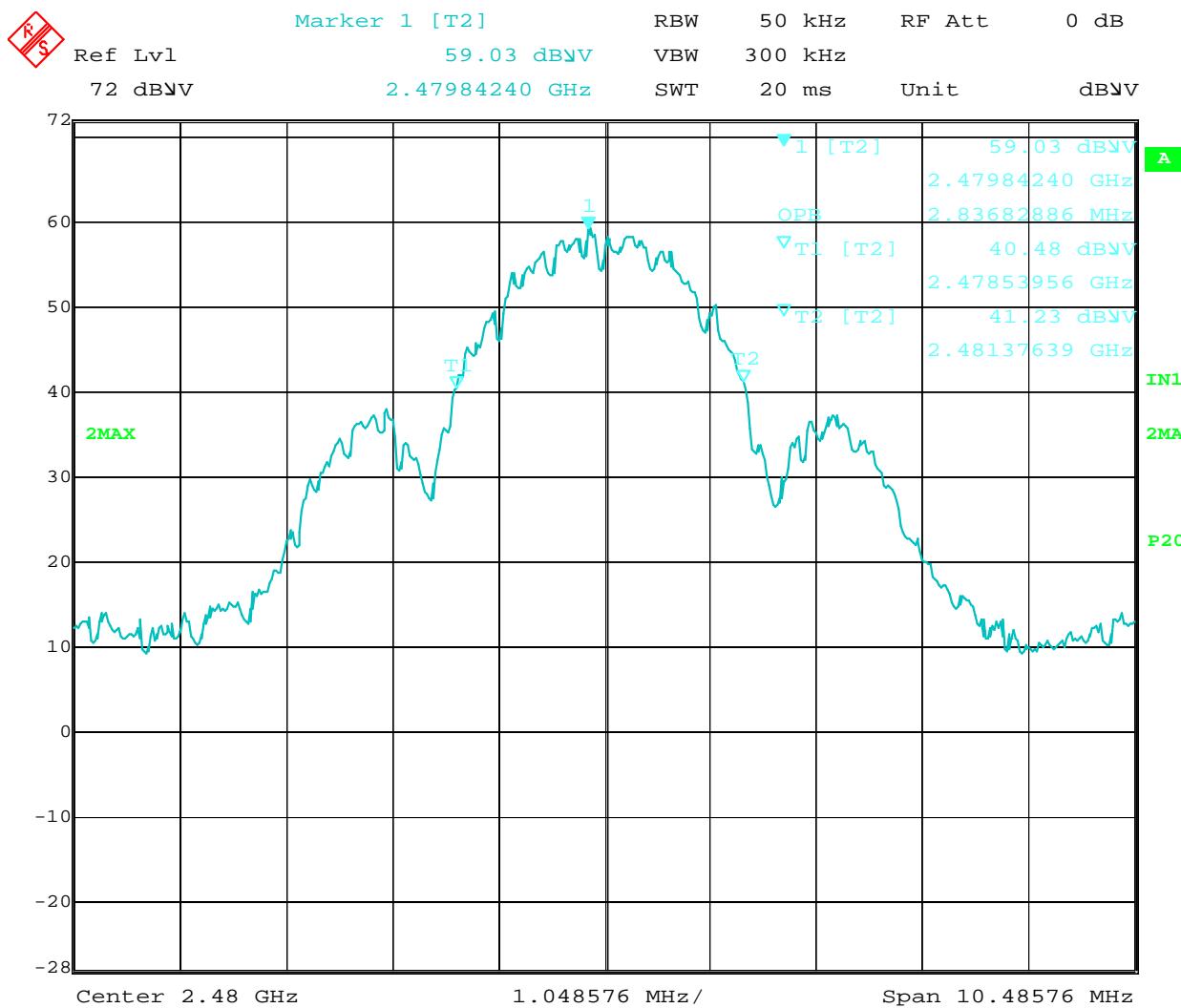


99% Power Bandwidth (Channel 18)



Date: 29.MAY.2012 19:44:25

99% Power Bandwidth (Channel 26)



Date: 29.MAY.2012 21:33:31

Test Personnel: Vathana F. Ven *VFV*

Test Date: 05/29/2012

Supervising Engineer:
 (Where Applicable)

N/A

Product Standard: FCC Part 15.247, RSS-210 Annex 8

Input Voltage: Internal Battery

Pretest Verification w/ Ambient
 Signals or BB Source: Ambient Signals

Test Levels: Below the specified limits

Ambient Temperature: 20 °C

Relative Humidity: 66 %

Atmospheric Pressure: 996 mbar

Deviations, Additions, or Exclusions: None

9 Power Spectral Density

9.1 Method

Tests are performed in accordance with FCC 15 Subpart C Section 15.247 (e), RSS-210 Issue 8 December 2010, A8.2 (b), KDB 558074 Section 5.3.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

9.2 Test Equipment Used:

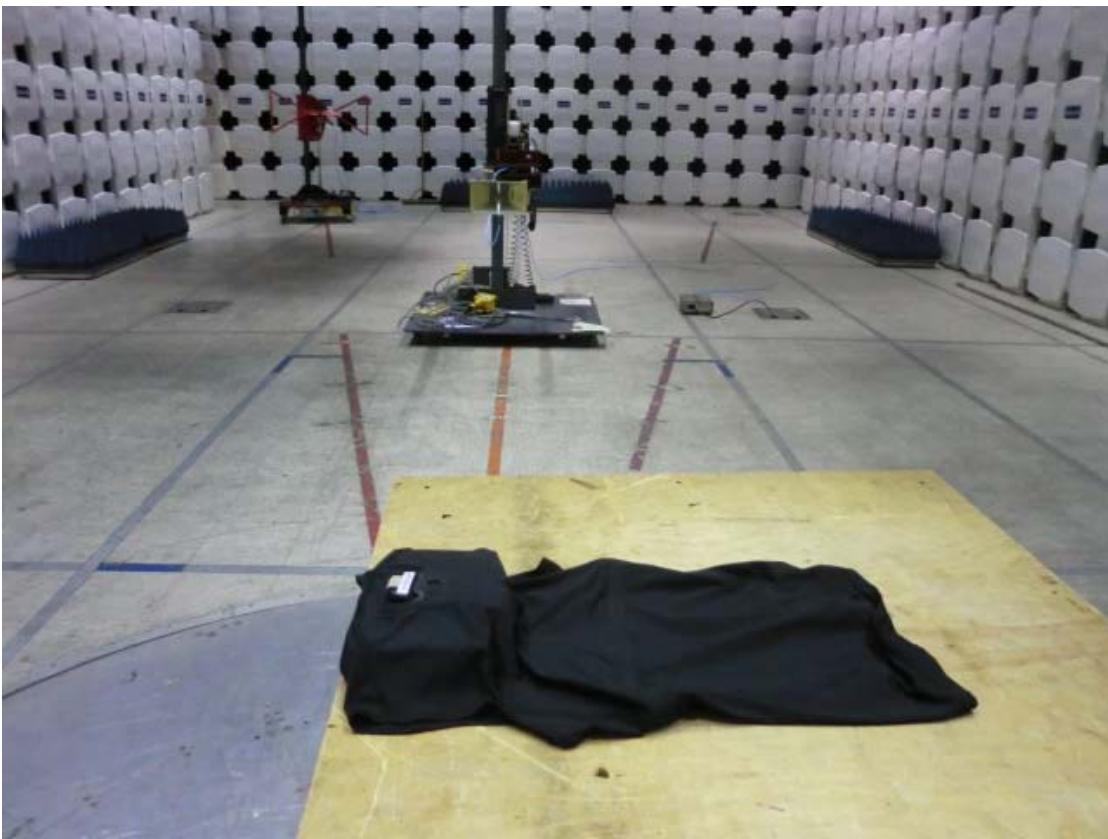
Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	10/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	10/04/2012	10/04/2013
145128'	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESI	8392831001	09/28/2012	09/28/2013

Software Utilized:

Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

9.3 Results:

The peak power spectral density must not exceed 8 dBm in any 3 kHz bandwidth. The sample tested was found to comply.

9.4 Setup Photographs:

9.5 Test Data:

CH11 PSD Radiated Emissions

Company: Adidas International
Model #: POD
Serial #: P18
Engineers: Vathana Ven
Project #: G100719224 Date(s): 10/04/12
Standard: FCC Part 15 Subpart C 15.247/RSS-210
Receiver: R&S ESI (145-148) 09-28-2013 Limit Distance (m): 3
PreAmp: PRE145014 12-16-2012.txt Test Distance (m): 3
PreAmp Used? (Y or N): N Voltage/Frequency: 3.7VDC Frequency Range: Frequencies Shown
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	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth
Note: CH11, p = 255, (Unit was in shirt - Position 1)											
Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB											
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP											
PK	V	2405.000	57.20	28.55	5.86	0.00	0.00	-18.81	8.00	-26.81	100/300 kHz
PK	H	2405.000	61.63	28.33	5.86	0.00	0.00	-14.60	8.00	-22.60	100/300 kHz
Note: Power Density measured in a 3 kHz RBW											
PK	V	2405.000	51.33	28.55	5.86	0.00	0.00	-9.48	8.00	-17.48	3/10 kHz
PK	H	2405.000	55.71	28.33	5.86	0.00	0.00	-5.32	8.00	-13.32	3/10 kHz
Note: CH11, p = 255, (Unit was in shirt - Position 2)											
Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB											
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP											
PK	V	2405.000	59.14	28.55	5.86	0.00	0.00	-16.87	8.00	-24.87	100/300 kHz
PK	H	2405.000	61.28	28.33	5.86	0.00	0.00	-14.95	8.00	-22.95	100/300 kHz
Note: Power Density measured in a 3 kHz RBW											
PK	V	2405.000	50.47	28.55	5.86	0.00	0.00	-10.34	8.00	-18.34	3/10 kHz
PK	H	2405.000	54.77	28.33	5.86	0.00	0.00	-6.26	8.00	-14.26	3/10 kHz
Note: CH11, p = 255, (Unit was in shirt - Position 3)											
Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB											
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP											
PK	V	2405.000	59.66	28.55	5.86	0.00	0.00	-16.35	8.00	-24.35	100/300 kHz
PK	H	2405.000	58.53	28.33	5.86	0.00	0.00	-17.70	8.00	-25.70	100/300 kHz
Note: Power Density measured in a 3 kHz RBW											
PK	V	2405.000	53.88	28.55	5.86	0.00	0.00	-6.93	8.00	-14.93	3/10 kHz
PK	H	2405.000	52.92	28.33	5.86	0.00	0.00	-8.11	8.00	-16.11	3/10 kHz

FCC IC

CH18 PSD
Radiated Emissions

Company: Adidas International

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

Model #: POD

Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt

Serial #: P18

Cable(s): 145-416 3mTrkB 10-04-2013.txt NONE.

Engineers: Vathana Ven

Location: 10m Chamber Barometer: DAV001

Filter: NONE

Project #: G100719224

Date(s): 10/04/12

Standard: FCC Part 15 Subpart C 15.247/RSS-210

Temp/Humidity/Pressure: 21c 53% 1003mB

Receiver: R&S ESI (145-148) 09-28-2013

Limit Distance (m): 3

PreAmp: PRE145014 12-16-2012.txt

Test Distance (m): 3

PreAmp Used? (Y or N): N Voltage/Frequency: 3.7VDC Frequency Range: Frequencies Shown

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	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth	FCC	IC
Note: CH18 , p = 255, (Unit was in shirt - Position 1)													
Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB													
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP													
PK	V	2440.000	56.22	28.60	5.91	0.00	0.00	-19.69	8.00	-27.69	100/300 kHz		
PK	H	2440.000	60.99	28.43	5.91	0.00	0.00	-15.09	8.00	-23.09	100/300 kHz		
Note: Power Density measured in a 3 kHz RBW													
PK	V	2440.000	50.87	28.60	5.91	0.00	0.00	-9.84	8.00	-17.84	3/10 kHz		
PK	H	2440.000	55.56	28.43	5.91	0.00	0.00	-5.32	8.00	-13.32	3/10 kHz		
Note: CH18 , p = 255, (Unit was in shirt - Position 2)													
Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB													
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP													
PK	V	2440.000	58.84	28.60	5.91	0.00	0.00	-17.07	8.00	-25.07	100/300 kHz		
PK	H	2440.000	58.45	28.43	5.91	0.00	0.00	-17.63	8.00	-25.63	100/300 kHz		
Note: Power Density measured in a 3 kHz RBW													
PK	V	2440.000	52.91	28.60	5.91	0.00	0.00	-7.80	8.00	-15.80	3/10 kHz		
PK	H	2440.000	52.73	28.43	5.91	0.00	0.00	-8.15	8.00	-16.15	3/10 kHz		
Note: CH18 , p = 255, (Unit was in shirt - Position 3)													
Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB													
Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP													
PK	V	2440.000	60.50	28.60	5.91	0.00	0.00	-15.41	8.00	-23.41	100/300 kHz		
PK	H	2440.000	56.50	28.43	5.91	0.00	0.00	-19.58	8.00	-27.58	100/300 kHz		
Note: Power Density measured in a 3 kHz RBW													
PK	V	2440.000	50.87	28.60	5.91	0.00	0.00	-9.84	8.00	-17.84	3/10 kHz		
PK	H	2440.000	50.98	28.43	5.91	0.00	0.00	-9.90	8.00	-17.90	3/10 kHz		

CH26 PSD
Radiated Emissions

Company: Adidas International

Model #: POD

Serial #: P18

Engineers: Vathana Ven

Project #: G100719224

Date(s): 10/04/12

Standard: FCC Part 15 Subpart C 15.247/RSS-210

Receiver: R&S ESI (145-148) 09-28-2013

PreAmp: PRE145014 12-16-2012.txt

PreAmp Used? (Y or N): N Voltage/Frequency: 3.7VDC Frequency Range: Frequencies Shown

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	EIRP Net dBm	EIRP Limit dBm	Margin dB	Bandwidth
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FCC IC

Note: CH26, p = 255, (Unit was in shirt - Position 1)

Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2480.000	55.28	28.67	5.97	0.00	0.00	-20.50	8.00	-28.50	100/300 kHz
PK	H	2480.000	60.49	28.54	5.97	0.00	0.00	-15.42	8.00	-23.42	100/300 kHz

Note: Power Density measured in a 3 kHz RBW

PK	V	2480.000	49.97	28.67	5.97	0.00	0.00	-10.61	8.00	-18.61	3/10 kHz
PK	H	2480.000	55.13	28.54	5.97	0.00	0.00	-5.58	8.00	-13.58	3/10 kHz

Note: CH26, p = 255, (Unit was in shirt - Position 2)

Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2480.000	57.04	28.67	5.97	0.00	0.00	-18.74	8.00	-26.74	100/300 kHz
PK	H	2480.000	57.12	28.54	5.97	0.00	0.00	-18.79	8.00	-26.79	100/300 kHz

Note: Power Density measured in a 3 kHz RBW

PK	V	2480.000	51.76	28.67	5.97	0.00	0.00	-8.82	8.00	-16.82	3/10 kHz
PK	H	2480.000	51.73	28.54	5.97	0.00	0.00	-8.98	8.00	-16.98	3/10 kHz

Note: CH26, p = 255, (Unit was in shirt - Position 3)

Peak Power Spectral Density, normalized from 100kHz to 3 kHz using Bandwidth Correction Factor 10LOG(3/100 kHz)=-15.2 dB

Note: EIRP Obtained by applying the path loss correction for a 3m test distance, E(dBuV/m)@3m - 95.22 = dBm EIRP

PK	V	2480.000	57.76	28.67	5.97	0.00	0.00	-18.02	8.00	-26.02	100/300 kHz
PK	H	2480.000	53.80	28.54	5.97	0.00	0.00	-22.11	8.00	-30.11	100/300 kHz

Note: Power Density measured in a 3 kHz RBW

PK	V	2480.000	53.38	28.67	5.97	0.00	0.00	-7.20	8.00	-15.20	3/10 kHz
PK	H	2480.000	46.43	28.54	5.97	0.00	0.00	-14.28	8.00	-22.28	3/10 kHz

Test Personnel: Vathana VenTest Date: 10/04/2012

Supervising Engineer:

(Where Applicable)

Product Standard: FCC Part 15.247, RSS-210 Annex 8Input Voltage: Internal BatteryTest Levels: Below the specified limitsAmbient Temperature: 21°CRelative Humidity: 53%Atmospheric Pressure: 1003 mbarPretest Verification w/ Ambient Signals or BB Source: Ambient Signals

Deviations, Additions, or Exclusions: None

10 Band-edge Compliance

10.1 Method

Tests are performed in accordance with FCC Part 15 Subpart C Section 15.247 (d), RSS-210 Issue 8 December 2010, A8.5, KDB 558074v01 Section 5.4.2.2.4.

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

10.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	10/17/2012
HORN2'	HORN ANTENNA	EMCO	3115	9602-4675	10/24/2011	10/24/2012
145-416'	Cables 145-400 145-402 145-404 145-408	Huber + Suhner	3m Track B cables	multiple	10/04/2012	10/04/2013
145128'	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESI	8392831001	09/29/2011	09/28/2013

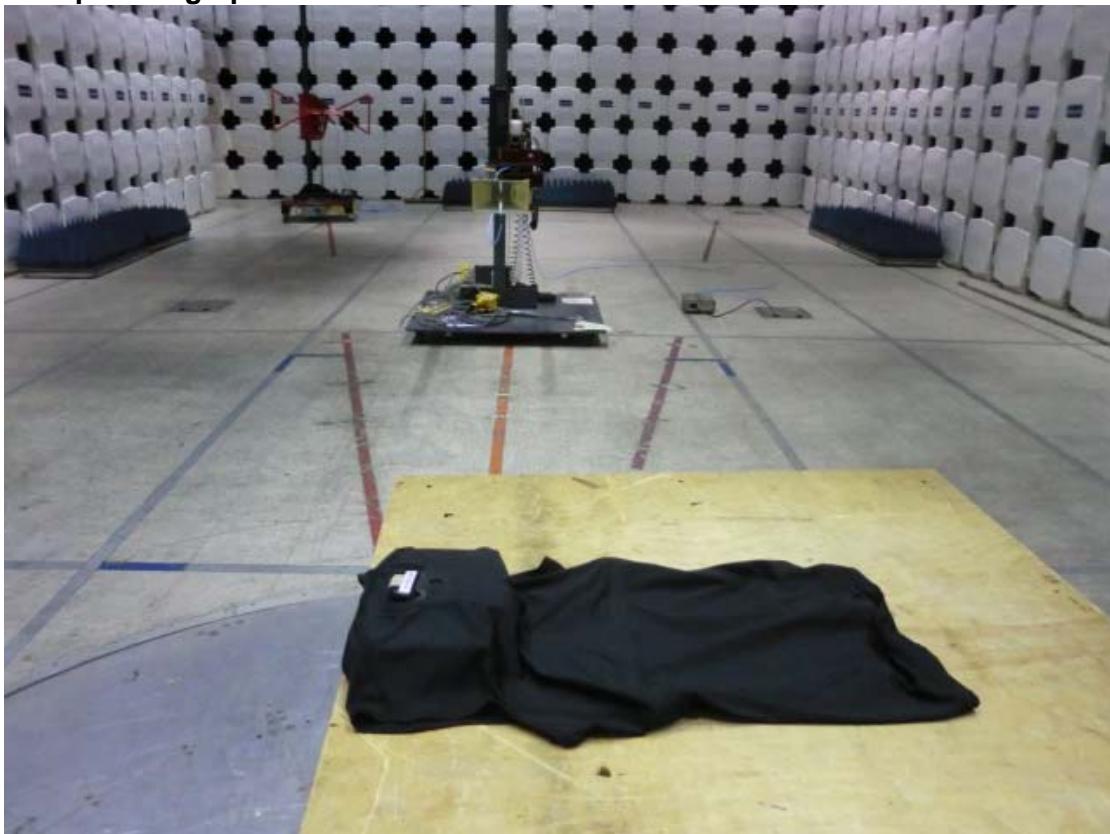
Software Utilized:

Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

10.3 Results:

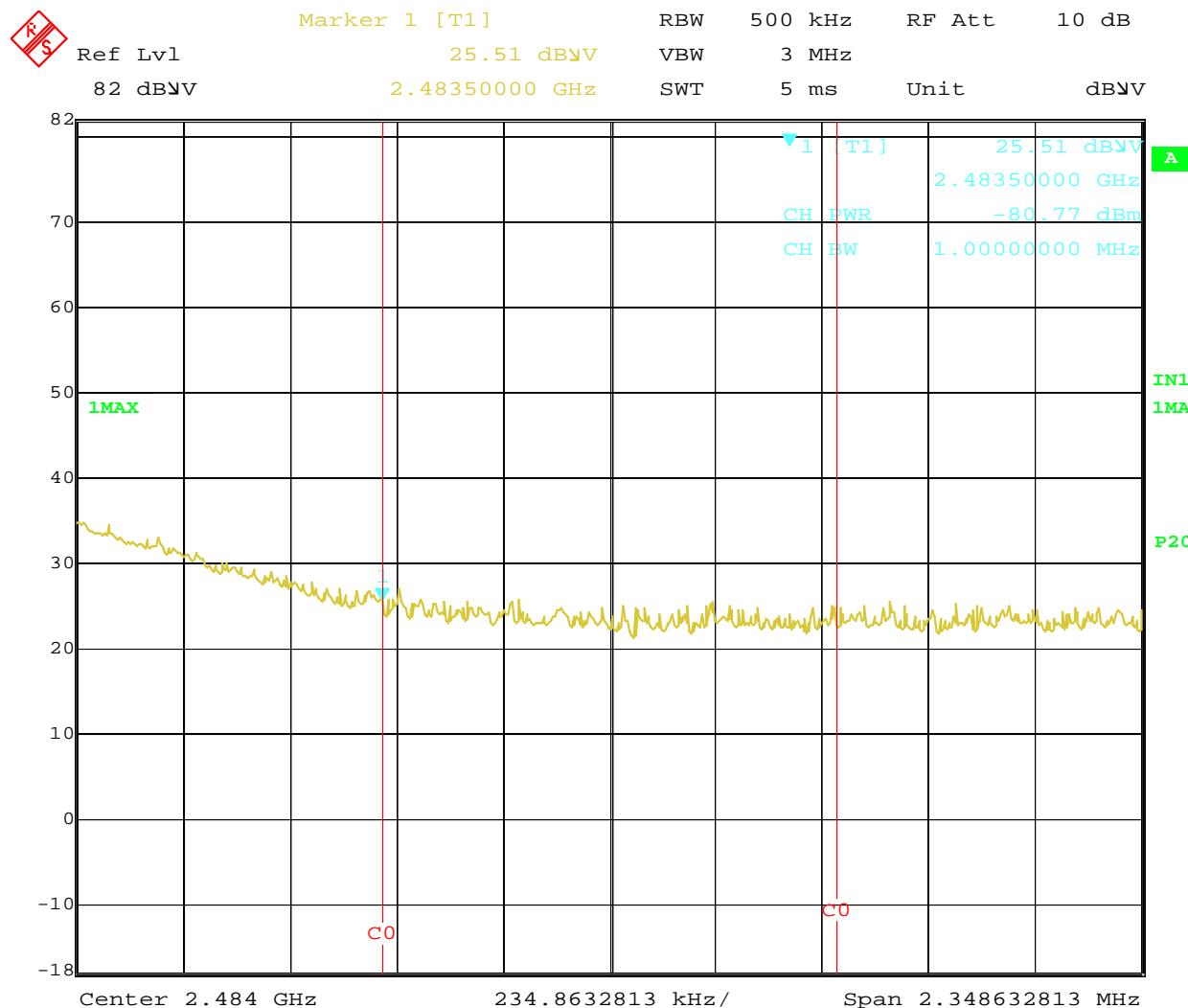
The sample tested was found to comply.

Spurious emissions at the band edges must be at least 20 dB lower than the fundamental field strength when measured with a 100 kHz bandwidth, without the need to be below the general limits of FCC Part 15 Section 15.209 and of RSS-Gen 7.2.5 Table 5. Emissions in restricted bands must meet the general limits of FCC Part 15 Section 15.209 and of RSS-Gen 7.2.5 Table 5.

10.4 Setup Photographs:

10.5 Test Data:

Upper Band Edge



Date: 5.OCT.2012 06:10:54

Special Radiated Emissions

Company: Adidas International

Model #: POD

Serial #: P18

Engineers: Vathana Ven

Project #: G100719224

Date(s): 10/05/12

Standard: FCC Part 15 Subpart C 15.247/RSS-210

Receiver: R&S ESI (145-148) 09-28-2013

Location: 10m Chamber

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

Antenna: HORN2 V3m 10-24-2012.txt HORN2 H3m 10-24-2012.txt

Cable(s): 145-416 3mTrkB 10-04-2013.txt

Barometer: DAV003

Filter:

PreAmp: PRE145014 12-16-2012.txt

Temp/Humidity/Pressure: 21C

53%

1002mbar

Limit Distance (m): 3

Test Distance (m): 3

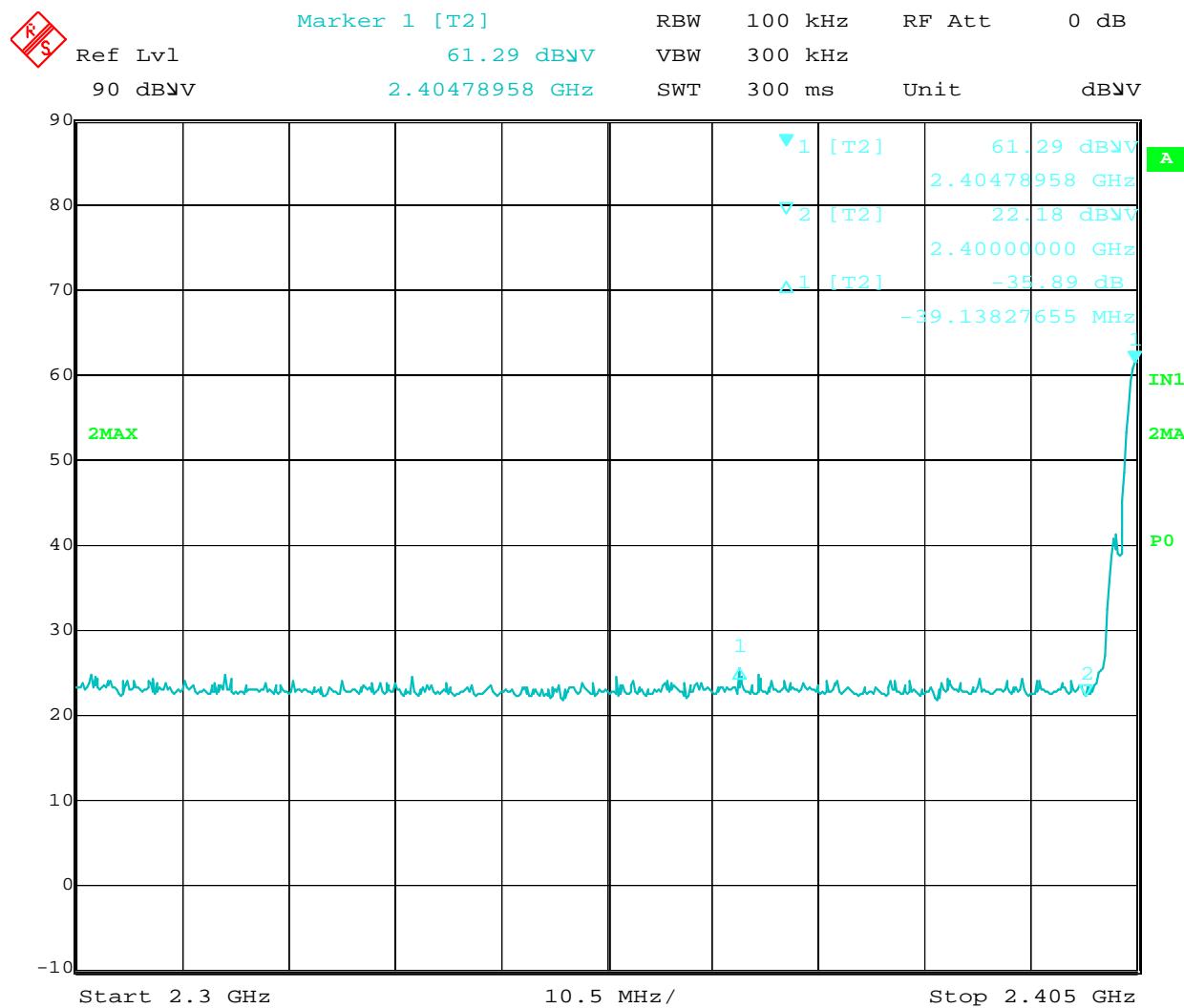
PreAmp Used? (Y or N): N Voltage/Frequency: 3.7VDC Frequency Range: See Frequencies

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	Harmonic?
Note: Upper Band Edge Compliance, Integrated to 1 MHz RBW Equivalent														
PK	H	2484.000	23.76	28.56	5.98	0.00	0.00	58.29	74.00	-15.71	10 kHz/30 kHz	RB		No Pre-Amp
AVG	H	2484.000	0.96	28.56	5.98	0.00	0.00	35.49	54.00	-18.51	10 kHz/30 kHz	RB		No Pre-Amp
Note: Upper Band Edge Compliance, Integrated to 1 MHz RBW Equivalent														
PK	H	2484.000	26.53	28.56	5.98	0.00	0.00	61.06	74.00	-12.94	100/300kHz	RB		
AVG	H	2484.000	3.73	28.56	5.98	0.00	0.00	38.26	54.00	-15.74	100/300kHz	RB		
Note: Upper Band Edge Compliance, Integrated to 1 MHz RBW Equivalent														
PK	H	2484.000	26.23	28.56	5.98	0.00	0.00	60.76	74.00	-13.24	500kHz/3MHz	RB		
AVG	H	2484.000	3.43	28.56	5.98	0.00	0.00	37.96	54.00	-16.04	500kHz/3MHz	RB		

Lower Band Edge



Date: 6.OCT.2012 02:47:28

Test Personnel: Vathana VenTest Date: 10/05/2012, 10/06/2012

Supervising Engineer:
 (Where Applicable) N/A
 Product Standard: FCC Part 15.247, RSS-210 Annex 8
 Input Voltage: Internal Battery

Test Levels: Below the specified limits
 Ambient Temperature: 21°C
 Relative Humidity: 53%
 Atmospheric Pressure: 1002 mbar

Pretest Verification w/ Ambient Signals or BB Source: Ambient Signals

11 Digital Device Radiated Spurious Emissions

11.1 Method

Tests are performed in accordance with CFR47 FCC Part 15 Subpart B, IC ICES-003, EN 55022, AS/NZS CISPR 22

TEST SITE: 10m ALSE

The 10m ALSE is 13m (Length) x 21m (Depth) x 10m (Height) with the effective size in terms of space from the tips of the absorber is 12m (Length) x 20m (Depth) x 8.5m (Height). This chamber achieves broadband performance using a unique arrangement of hybrid and ferrite tile absorber. This chamber has a built in 3m diameter turntable (Embedded type). The metal structure of the table makes electrical connection around the entire circumference of the turntable to the ground plane with a metal brush type connection. The turntable is located on one end of the chamber and the antennas are mounted 3 and 10 meters away at the other end of the chamber on the adjustable an Antenna Mast. The antenna mast is a non-conductive bore sighted type with remote control of antenna height and polarization. The Antenna Mast and the turntable can be remotely controlled through the controller located in the adjacent Control room. A wooden table 80 cm high is used for table-top equipment.

Measurement Uncertainty

For radiated emissions, U_{lab} (3.5 dB at 3m and 3.5 dB at 10m below 1 GHz, and 4.2 dB at 3m above 1 GHz) $< U_{CISPR}$ (5.2 dB), which is the reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required, based on CISPR 22 and CISPR 11 (for 2006 and later revisions) Clause 11.

Sample Calculation

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 $\mu\text{V}/\text{m}$.

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

$$AF = 7.4 \text{ dB}/\text{m}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

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

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

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

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

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$

$$UF = 10^{(32 \text{ dB}\mu\text{V}/20)} = 39.8 \mu\text{V}/\text{m}$$

11.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
145106'	Bilog Antenna (30MHz - 5GHz)	Sundt Sciences	JB5	A111003	09/04/2012	09/04/2013
DAV003'	Weather Station	Davis Instruments	7400	PE80529A39A	08/17/2011	10/17/2012
145003'	Preamplifier (150 KHz to 1.3 GHz)	Hewlett Packard	8447D	2443A04077	10/04/2012	10/04/2013
145128'	EMI Receiver 40 GHz (20 Hz - 40 Ghz)	Rohde & Schwarz	ESI	8392831001	09/29/2011	09/28/2013
145-410'	Cables 145-400 145-403 145-405 145-406 145-407	Huber + Suhner	10m Track A Cables	multiple	10/04/2012	10/04/2013

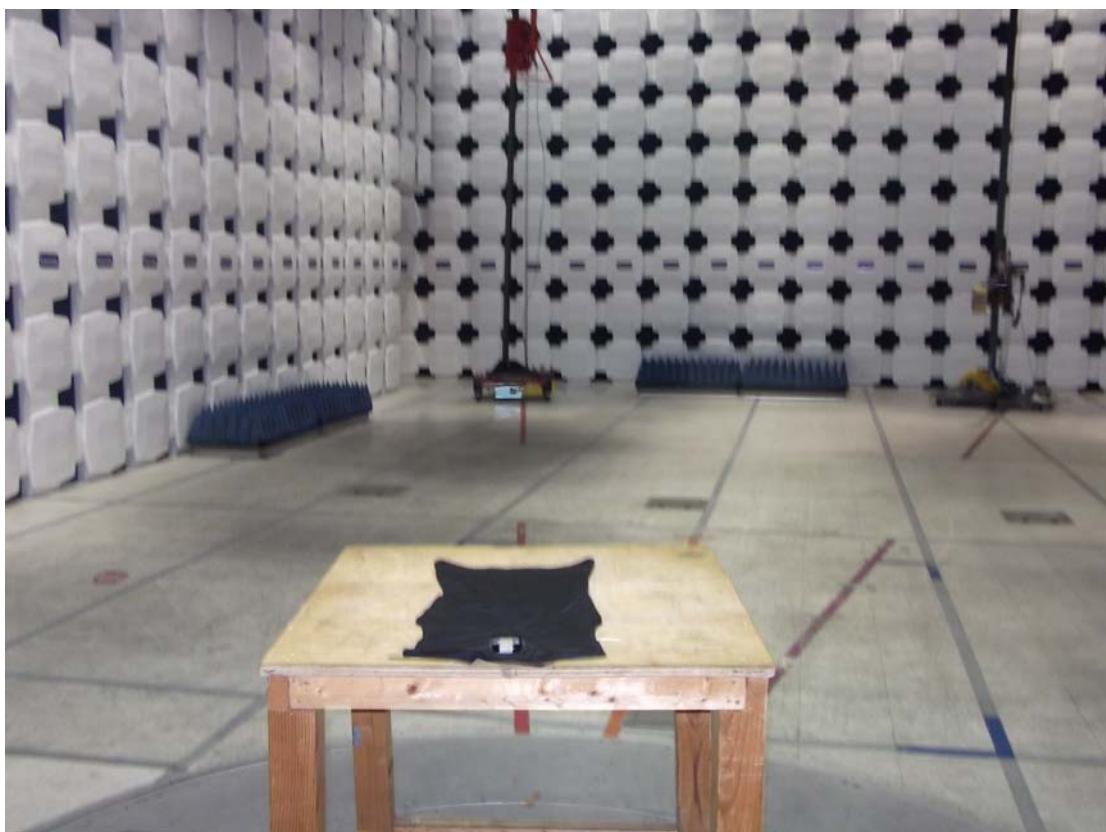
Software Utilized:

Name	Manufacturer	Version
C5	Teseq	Build 5.26.00.3

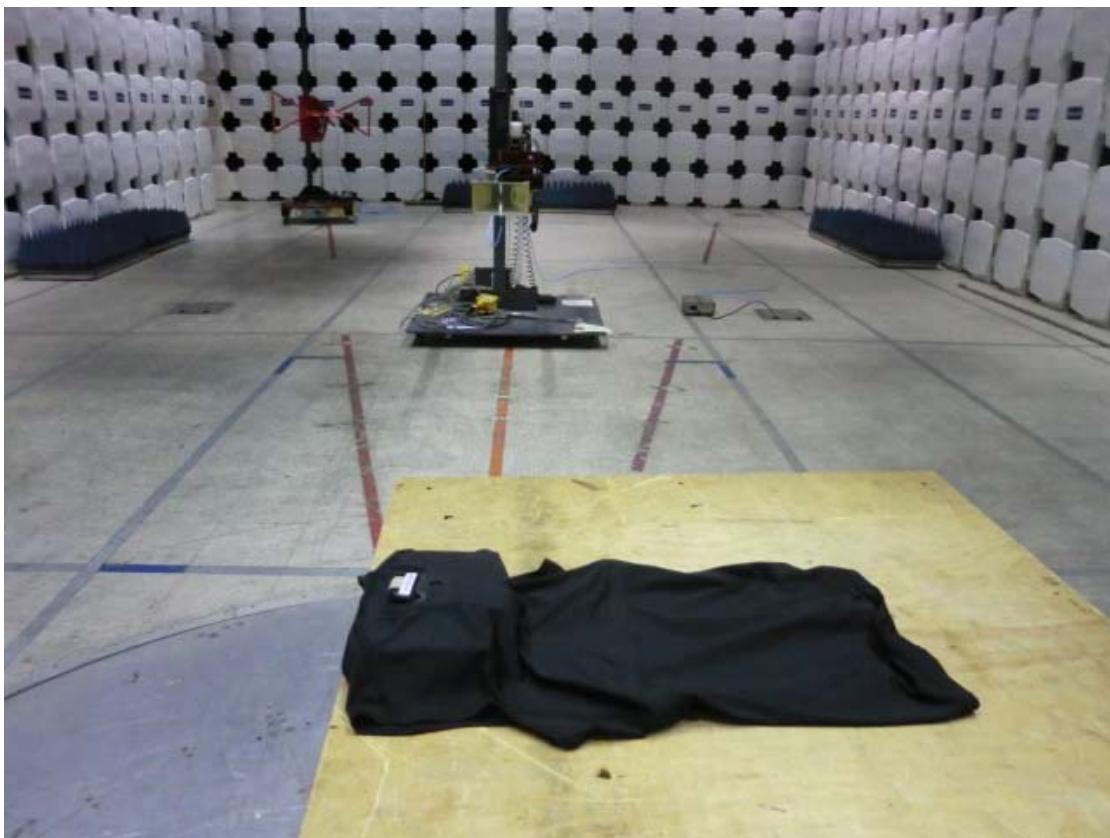
Name	Manufacturer	Version
Excel 2003	Microsoft	(11.8231.8221) SP3
EMI Boxborough.xls	Intertek	08/27/10

11.3 Results:

The sample tested was found to comply.

11.4 Setup Photographs:

Scan from 30-1000MHz



Scan from 1 – 13 GHz

11.5 Test Data:

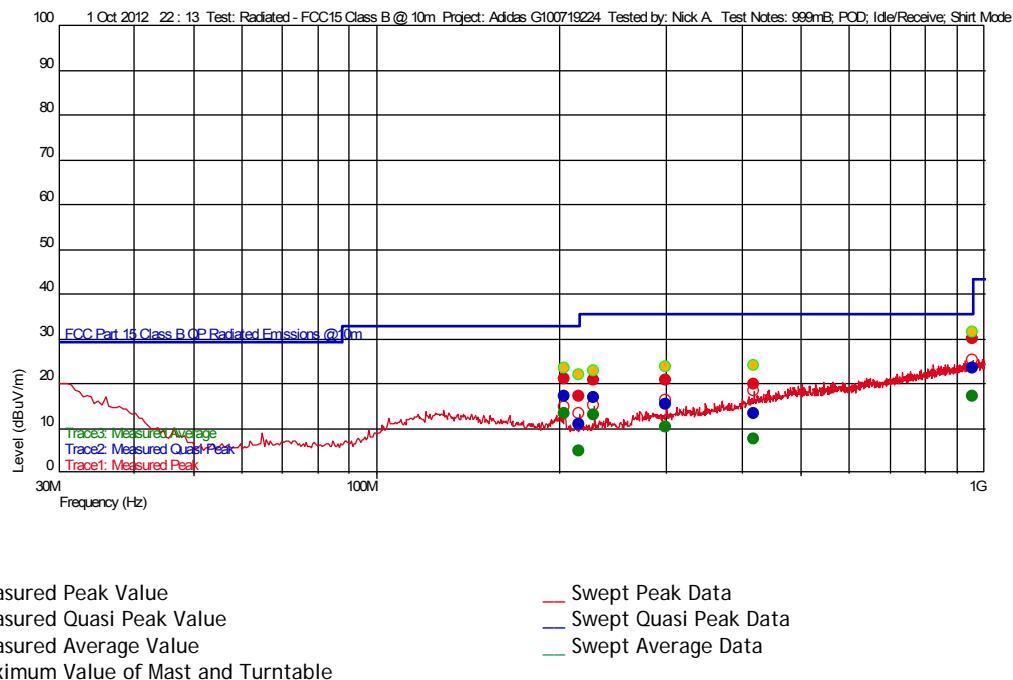
Test Information

Test Details
 Test: Radiated - FCC15 Class B @ 10m
 Project: Adidas G100719224
 Test Notes: 999mB; POD; Idle/Receive; Shirt Mode
 Temperature: 25c
 Humidity: 41%
 Tested by: Nick A.
 Test Started: 1 Oct 2012 22 : 13

User Entry
 Radiated - FCC15 Class B @ 10m
 Adidas G100719224
 999mB; POD; Idle/Receive; Shirt Mode
 25c
 41%
 Nick A.
 1 Oct 2012 22 : 13

Additional Information

Prescan Emission Graph



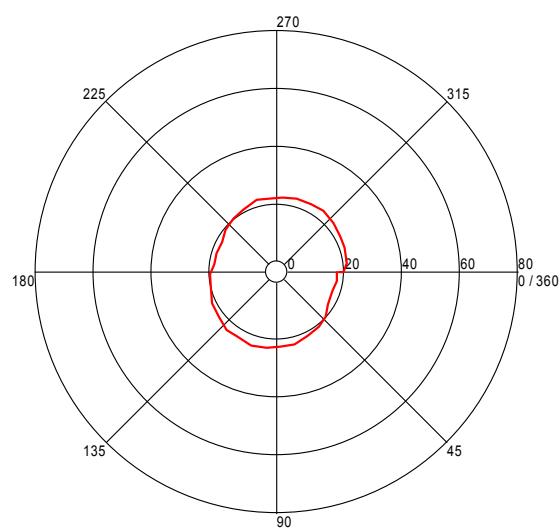
Emissions Test Data

Trace2: Measured Quasi Peak

Frequency(Hz)	Level(dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment
216.114429349 M	10.93	5	24.264	35.540	-24.61	--	101	3.99	120 k	
418.30821621 M	13.25	2	23.911	35.540	-22.29		148	3.38	120 k	
299.92204423 M	15.36	8	24.065	35.540	-20.18	--	2	3.10	120 k	
227.959919733 M	16.87	8	24.224	35.540	-18.67	--	277	4.00	120 k	
204.039679447 M	17.02	5	24.306	33.040	-16.02	--	121	4.00	120 k	
956.882364735 M	23.41	0	22.411	35.540	-12.13	--	225	3.48	120 k	

Azimuth Plots

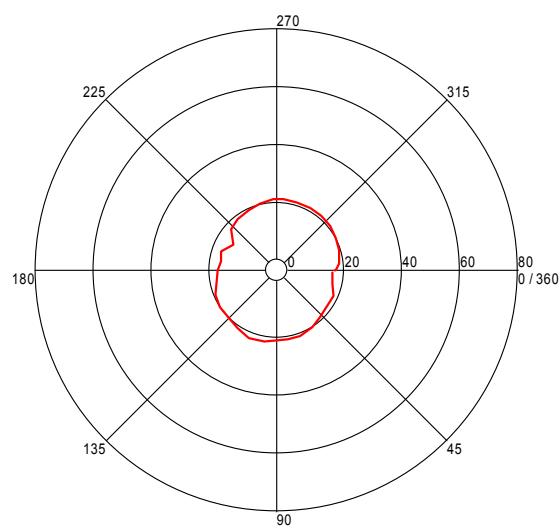
Turntable Plot (204.039679447 MHz)



All Polarities

Azimuth (Degrees)

Turntable Plot (216.114429349 MHz)

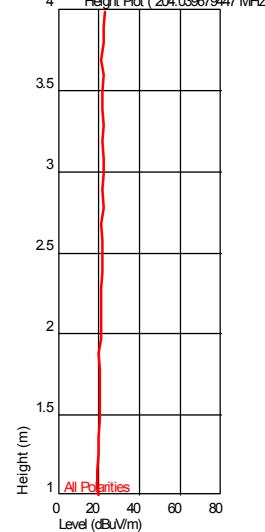


All Polarities

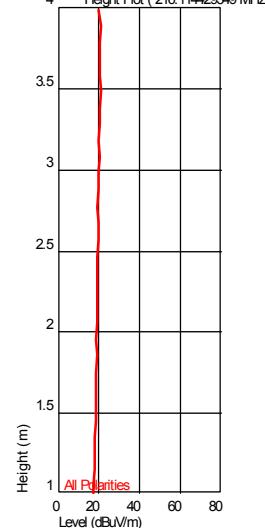
Azimuth (Degrees)

Turntable Plots

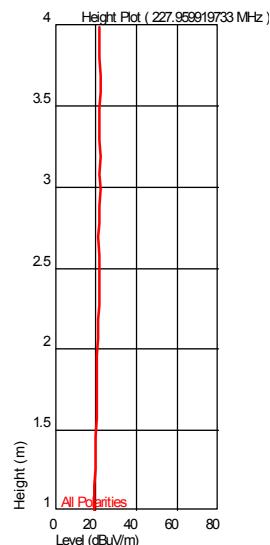
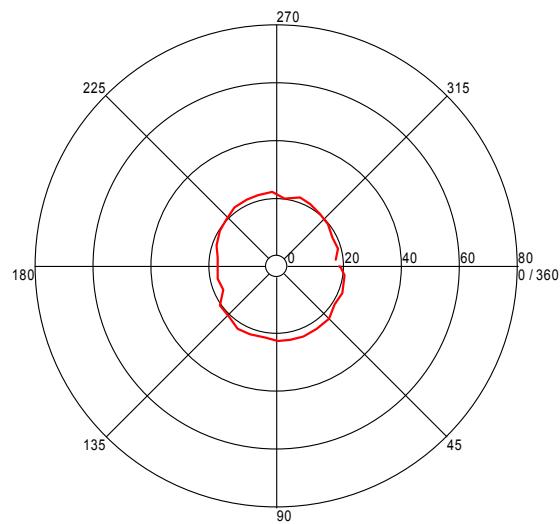
Height Plot (204.039679447 MHz)



Height Plot (216.114429349 MHz)



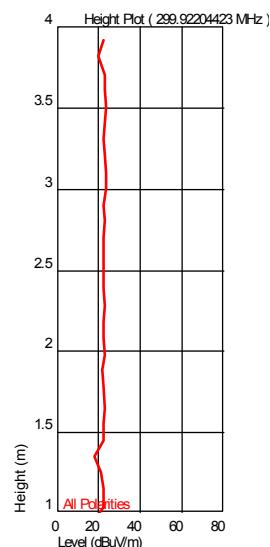
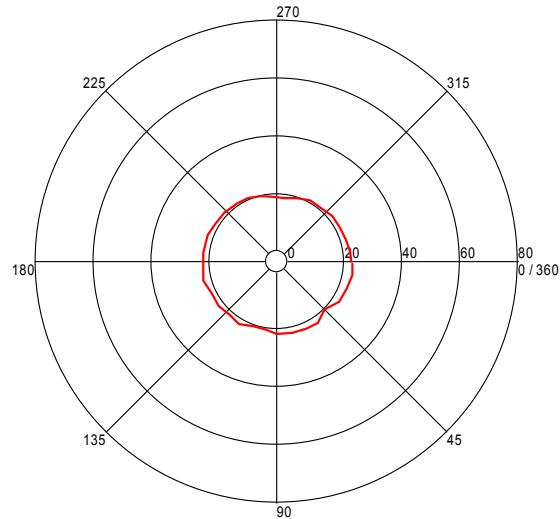
Turntable Plot (227.959919733 MHz)



All Polarities

Azimuth (Degrees)

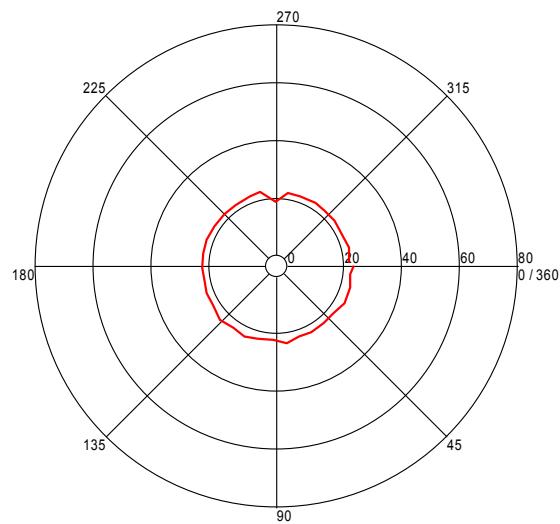
Turntable Plot (299.92204423 MHz)



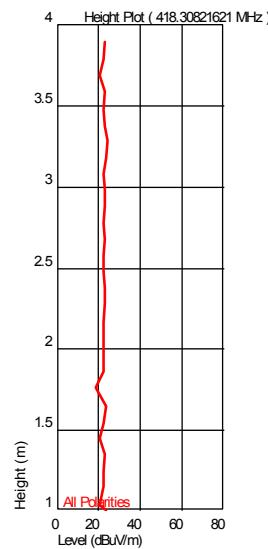
All Polarities

Azimuth (Degrees)

Turntable Plot (418.30821621 MHz)



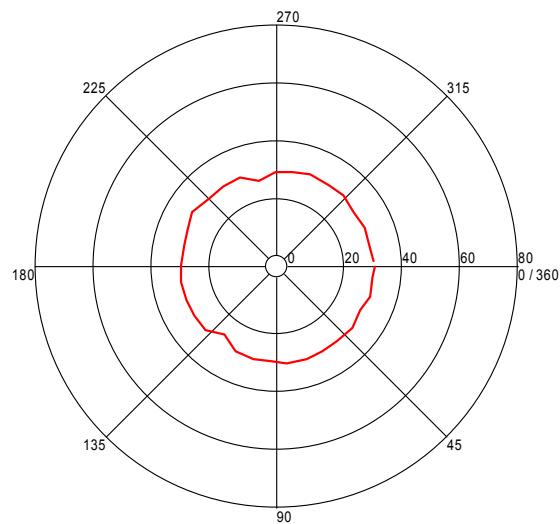
Level (dBuV/m)



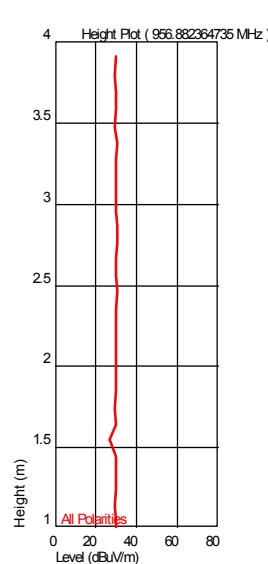
All Polarities

Azimuth (Degrees)

Turntable Plot (956.882364735 MHz)



Level (dBuV/m)



All Polarities

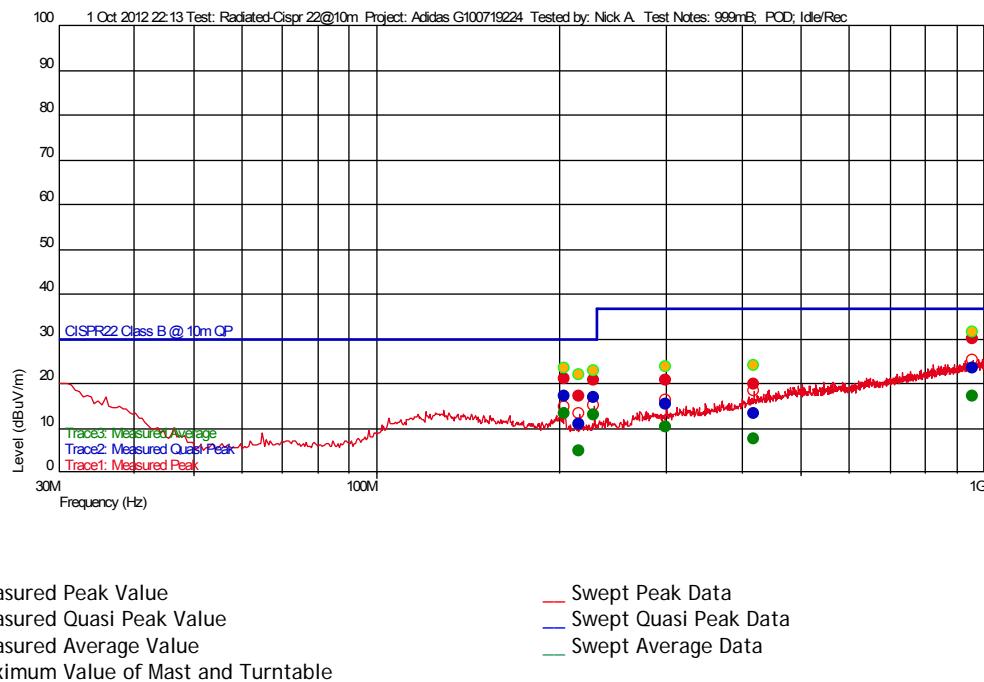
Azimuth (Degrees)

Test Information

Test Details	User Entry
Test:	Radiated – Cispr 22 @ 10m
Project:	Adidas G100719224
Test Notes:	999mB; POD; Idle/Receive; Shirt Mode
Temperature:	25c
Humidity:	41%
Tested by:	Nick A.
Test Started:	1 Oct 2012 22 : 13

Additional Information

Prescan Emission Graph



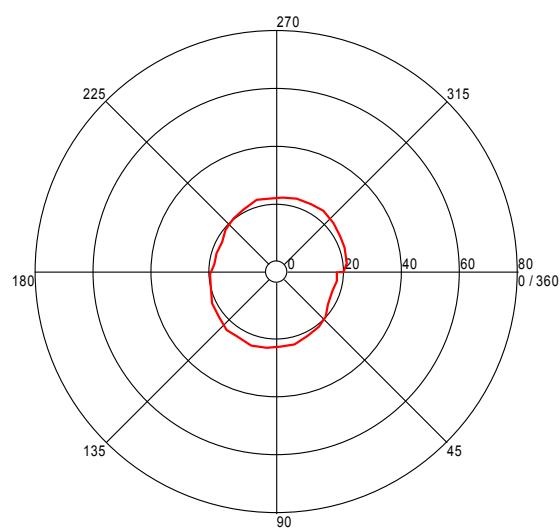
Emissions Test Data

Trace2: Measured Quasi Peak

Frequency(Hz)	Level(dBuV/m)	AF	PA+CL	Limit(dBuV/m)	Margin(dBuV/m)	Hor (--), Ver ()	Azimuth (deg)(Deg)	Mast Height(m)	RBW(Hz)	Comment	
216.114429349	10.93	10.84	-5	24.264	30.000	-19.07	--	101	3.99	120 k	
418.30821621	M	13.25	16.33	-2	23.911	37.000	-23.75		148	3.38	120 k
299.92204423	M	15.36	13.69	-8	24.065	37.000	-21.64	--	2	3.10	120 k
227.959919733	M	16.87	11.21	-8	24.224	30.000	-13.13	--	277	4.00	120 k
204.039679447	M	17.02	11.36	-5	24.306	30.000	-12.98	--	121	4.00	120 k
956.882364735	M	23.41	22.80	-0	22.411	37.000	-13.59	--	225	3.48	120 k

Azimuth Plots

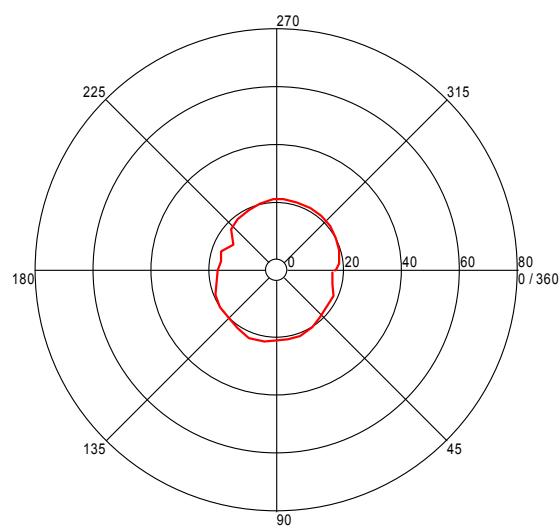
Turntable Plot (204.039679447 MHz)



All Polarities

Azimuth (Degrees)

Turntable Plot (216.114429349 MHz)

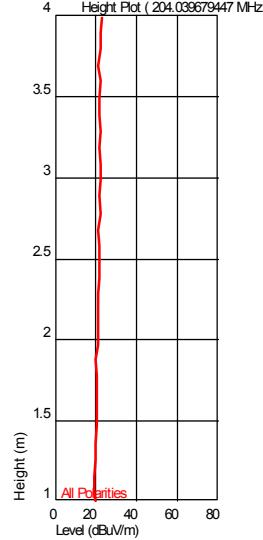


All Polarities

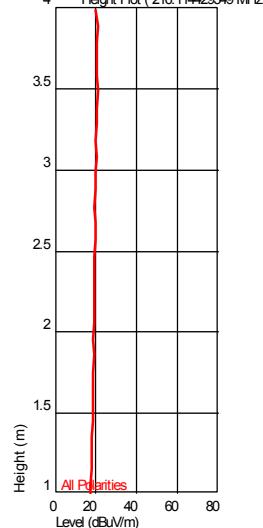
Azimuth (Degrees)

Turntable Plots

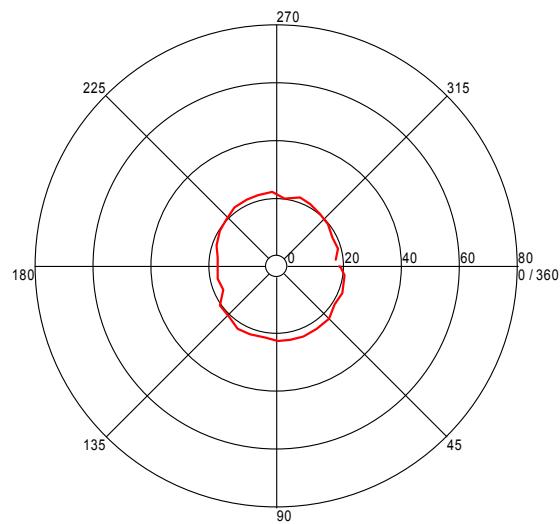
Height Plot (204.039679447 MHz)



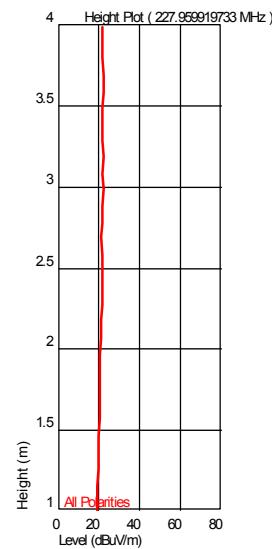
Height Plot (216.114429349 MHz)



Turntable Plot (227.959919733 MHz)



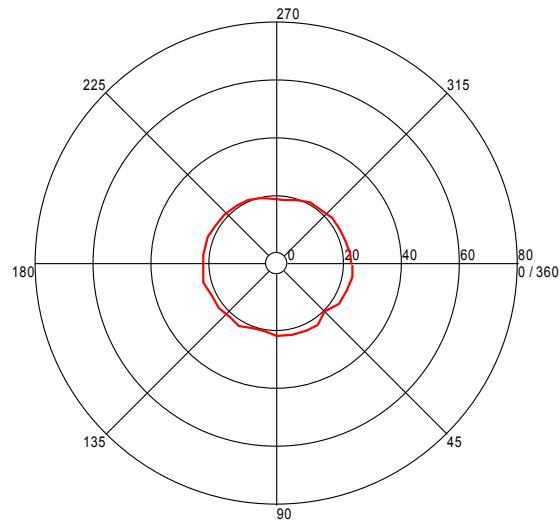
Level (dBuV/m)



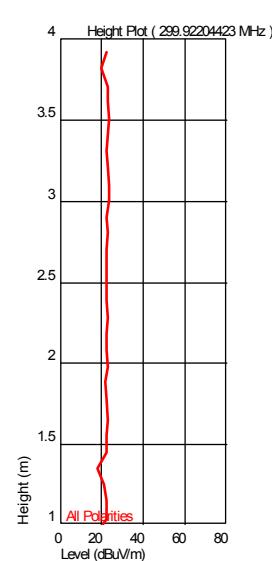
All Polarities

Azimuth (Degrees)

Turntable Plot (299.92204423 MHz)



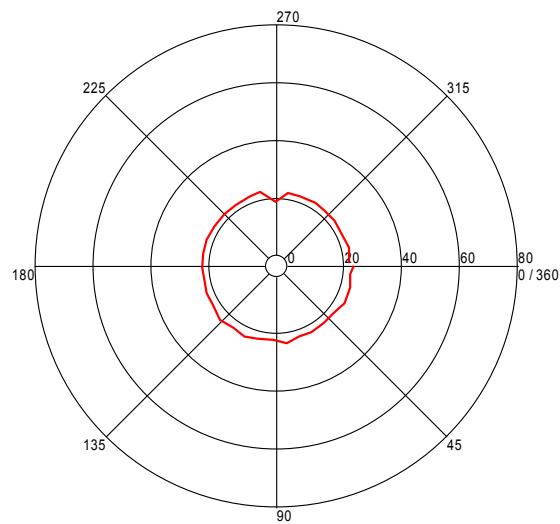
Level (dBuV/m)



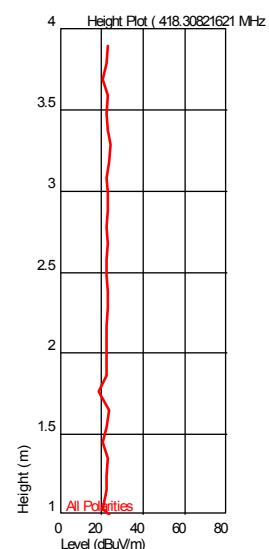
All Polarities

Azimuth (Degrees)

Turntable Plot (418.30821621 MHz)



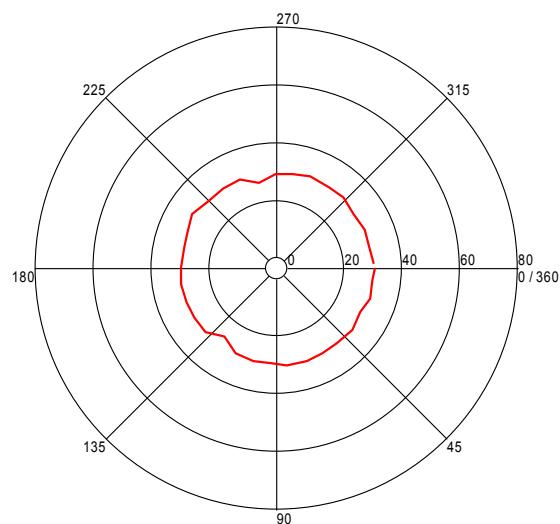
Level (dBuV/m)



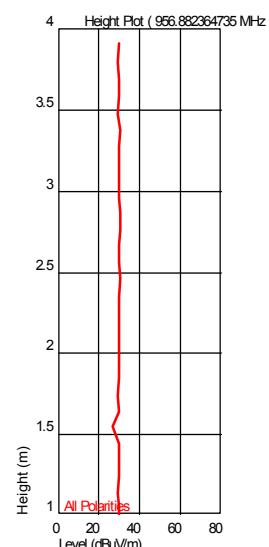
All Polarities

Azimuth (Degrees)

Turntable Plot (956.882364735 MHz)



Level (dBuV/m)



All Polarities

Azimuth (Degrees)

Special Radiated Emissions

Company: Adidas International
 Model #: POD
 Serial #: P18
 Engineers: Vathana Ven
 Project #: G100719224 Date(s): 10/09/12
 Standard: FCC Part 15 Subpart C 15.247/RSS-210
 Notes: Idle/Rx mode
 Receiver: R&S ESI (145-148) 09-28-2013 Limit Distance (m): 3
 PreAmp: PRE145014 12-16-2012.txt Test Distance (m): 1.5
 PreAmp Used? (Y or N): Y Voltage/Frequency: 3.3VDC Frequency Range: 1-13 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	Harmonic?
PK	V	2500.000	39.90	28.70	6.00	34.25	6.02	34.33	74.00	-39.67	1/3 MHz	RB	RB	Noise Floor
AVG	V	2500.000	39.90	28.70	6.00	34.25	6.02	34.33	54.00	-19.67	1/3 MHz	RB	RB	Noise Floor
PK	V	3500.000	39.70	31.43	7.23	35.07	6.02	37.27	74.00	-36.73	1/3 MHz		RB	Noise Floor
AVG	V	3500.000	39.70	31.43	7.23	35.07	6.02	37.27	54.00	-16.73	1/3 MHz		RB	Noise Floor
PK	V	5500.000	38.40	34.25	9.11	33.97	6.02	41.77	74.00	-32.23	1/3 MHz			Noise Floor
AVG	V	5500.000	38.40	34.25	9.11	33.97	6.02	41.77	54.00	-12.23	1/3 MHz			Noise Floor
PK	V	6500.000	39.40	34.44	11.00	35.26	6.02	43.56	74.00	-30.44	1/3 MHz			Noise Floor
AVG	V	6500.000	39.40	34.44	11.00	35.26	6.02	43.56	54.00	-10.44	1/3 MHz			Noise Floor
PK	V	9500.000	38.90	37.99	12.41	36.27	6.02	47.01	74.00	-26.99	1/3 MHz			Noise Floor
AVG	V	9500.000	38.90	37.99	12.41	36.27	6.02	47.01	54.00	-6.99	1/3 MHz			Noise Floor

Nicholas Abbondante 

Test Date: 10/01/2012, 10/09/2012

Test Personnel: Vathana Ven Supervising Engineer:
(Where Applicable)

N/A

Test Levels: Below the specified Class B limits

Product Standard: FCC Part 15 Subpart B, IC ICES-003,
Input Voltage: AS/NZS CISPR 22, EN 55022Ambient Temperature: 25, 22 °C
Relative Humidity: 41, 44 %

Atmospheric Pressure: 999, 1011 mbar

Pretest Verification w/ Ambient Signals or BB Source: Ambient Signals

Deviations, Additions, or Exclusions: None

12 Revision History

Revision Level	Date	Report Number	Notes
0	10/15/2012	100719224BOX-039	Original Issue