# TEST REPORT
# FROM
# RFI GLOBAL SERVICES LTD

Partial Test of: Blutag Victim

To: FCC Part 15.249(a)

**Test Report Serial No:**
RFI-RPT-RP76131JD04B

**Version 2.0 supersedes all previous versions**

| | |
|---|---|
| **This Test Report Is Issued Under The Authority Of Brian Watson, COO Payments and Consultancy:**  | |
| **Checked By:** | Nigel Davison |
| **Signature:** |  pp |
| **Date of Issue:** | 14 May 2010 |

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**RFI Global Services Ltd**
Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number:2117901

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## Table of Contents

# 1. Customer Information

| | |
|---|---|
| **Company Name:** | Satellite Tracking of People LLC |
| **Address:** | 1212 North Post Oak Road<br>Suite 100<br>Houston<br>Texas<br>77055<br>USA |

# 2. Summary of Testing

## 2.1. General Information

| | |
|---|---|
| **Specification Reference:** | 47CFR15.249 |
| **Specification Title:** | Code of Federal Regulations Volume 47 (Telecommunications) 2009: Part 15 Subpart C (Radio Frequency Devices) - Section 15.249 |
| **Site Registration:** | 209735 |
| **Location of Testing:** | RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH |
| **Test Dates:** | 18 October 2009 to 20 November 2009 |

## 2.2. Summary of Test Results

| FCC Reference (47CFR) | Measurement | Port Type | Result |
|---|---|---|---|
| FCC 15.249(a) | Transmitter Fundamental Field Strength | Antenna |  |

**Key to Results**

 = Complied  = Did not comply

## 2.3. Methods and Procedures

| | |
|---|---|
| **Reference:** | ANSI/TIA-603-C-2004 |
| **Title:** | Land Mobile FM or PM - Communications Equipment - Measurement and Performance Standards |
| **Reference:** | ANSI C63.10 (2009) |
| **Title:** | American National Standard Methods for Testing Unlicensed Wireless Devices |

## 2.4. Deviations from the Test Specification

Transmitter Fundamental Field Strength requested only.

# 3. Equipment Under Test (EUT)

## 3.1. Identification of Equipment Under Test (EUT)

| | |
|---|---|
| **Brand Name:** | Blutag |
| **Model Name or Number:** | Victim |
| **Serial Number:** | 000015 |
| **Hardware Version Number:** | BB11_V |
| **Software Version Number:** | 4_603 |
| **FCC ID Number:** | S5EBTV0909 |

## 3.2. Description of EUT

The equipment under test was a body worn GPRS/GPS tracker fitted with an ISM 915 MHz transmitter.

## 3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

## 3.4. Additional Information Related to Testing

| | |
|---|---|
| **Equipment Category** | ISM915 MHz |
| **Type of Radio Device:** | Short Range Device |
| **Antenna Type:** | Internal |
| **Power Supply Requirement(s):** | 3.7 V |

## 3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

| | |
|---|---|
| **Description:** | Wireless Communication Test Set |
| **Brand Name:** | Agilent |
| **Model Name or Number:** | 8960 Series 10 |
| **Serial Number:** | GB46311280 |
| **Cable Length and Type:** | ~1.5m Utiflex Cable |
| **Connected to Port:** | RF Input/Output Port |

# 4. Operation and Monitoring of the EUT during Testing

## 4.1. Operating Modes

The EUT was tested in the following operating mode(s):

- ISM 915 MHz device – Constantly transmitting at maximum power

## 4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- The EUT was put into ISM 915 MHz mode by following the Client's instructions. The main button was pressed until the Light Emitting Diodes indicated the required mode.
- The battery was fully charged before testing commenced and recharged as required during the testing.

# 5. Measurements, Examinations and Derived Results

## 5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6. Measurement Uncertainty* for details.

## 5.2. Test Results

### 5.2.1. Transmitter Fundamental Field Strength

**Test Summary:**

| | |
|---|---|
| **FCC Part:** | Section 15.249(a) |
| **Test Method Used:** | ANSI C63.10 Section 6.5 |

**Environmental Conditions:**

| | |
|---|---|
| **Temperature Range (°C):** | 25 |
| **Relative Humidity Range (%):** | 32 |

**Results: ISM 915 MHz**

| Channel | Measured Frequency (MHz) | Level (dBuV/m) |
|---|---|---|
| Single Channel | 915.093 | 83.6 |

**Calculated Power (ERP)**

| Channel | Measured Frequency (MHz) | Level (dBm) |
|---|---|---|
| Single Channel | 915.093 | -13.8 |

**Note(s):**

1. The power result was calculated from the measured field strength using Pt = E^2R^2/30 where Pt is the power in Watts and R is the range distance of 3m. The final power was also reduced by 2.15 dB to account for the fact a dipole was used instead of an isotropic antenna.
2. The EUT was positioned in the X, Y and Z planes. The measurement antenna was positioned in the horizontal and vertical planes. The highest level was recorded in the above table.

## 6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

| Measurement Type | Range | Confidence Level (%) | Calculated Uncertainty |
|---|---|---|---|
| Transmitter Fundamental Field Strength | 30 MHz to 1000 MHz | 95% | ±4.64 dB |

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

# Appendix 1. Test Equipment Used

| RFI No. | Instrument | Manufacturer | Type No. | Serial No. | Date Last Calibrated | Cal. Interval (Months) |
|---|---|---|---|---|---|---|
| A1005 | Waveguide Transition | Silver Lab | PM 7325X | None | Calibrated before use | - |
| A1391 | Attenuator | HUBER + SUHNER AG | 757987 | 6810.17.B | Calibrated before use | - |
| A1392 | Attenuator | HUBER + SUHNER AG | 757456 | 6820.17.B | Calibrated before use | - |
| A1534 | Pre Amplifier | Hewlett Packard | 8449B OPT H02 | 3008A00405 | Calibrated before use | - |
| A1818 | Antenna | EMCO | 3115 | 00075692 | 27 Nov 2009 | 12 |
| A288 | Antenna | Chase | CBL6111A | 1589 | 16 Mar 2010 | 12 |
| M1124 | Spectrum Analyser | Rohde & Schwarz | ESIB26 | 100046K | 09 Mar 2009 | 12 |
| K0002 | 3m RSE Chamber | Rainford EMC | Not applicable | Not applicable | 01 Sept 2009 | 12 |

**NB** In accordance with UKAS requirements all the measurement equipment is on a calibration schedule.