



**TEST REPORT
FROM
RFI GLOBAL SERVICES LTD**

Test of: BluTag V5

To: FCC Part 15.215, FCC Part 15.207 and FCC 15.209: 2008 Subpart C

Test Report Serial No:
RFI/RPT2/RP75379JD05A

Supersedes Test Report Serial No:
RFI/RPT1/RP75379JD05A

This Test Report Is Issued Under The Authority Of Brian Watson, Operations Director:	
	
Checked By:	Nigel Davison
Signature:	
Date of Issue:	14 August 2009

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Table of Contents

1. Customer Information 4

2. Summary of Testing 5

3. Equipment Under Test (EUT) 6

4. Operation and Monitoring of the EUT during Testing 7

5. Measurements, Examinations and Derived Results 8

6. Measurement Uncertainty 16

Appendix 1. Test Equipment Used 17

1. Customer Information







Company Name:	Satellite Tracking of People LLC
Address:	1212 North Post Oak Road Suite 100 Houston Texas 77055

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 15 Subpart C (Radio Frequency Devices - Intentional Radiators) Sections 15.207 and 15.209
Specification Reference:	47CFR15.215
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2008: Part 15 Subpart C (Radio Frequency Devices - Intentional Radiators) Section 15.215
Site Registration:	FCC: 209735
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	16 July 2009 to 20 July 2009

2.2. Summary of Test Results

FCC Reference (47CFR)	Measurement	Port Type	Result
FCC Part 15.207	Transmitter AC Conducted Emissions	AC Mains	
FCC Part 15.215 and 15.209	Transmitter Fundamental Field Strength	Antenna	
FCC Part 15.209	Transmitter Radiated Spurious Emissions	Antenna	
FCC Part 15.215	Transmitter 20 dB Bandwidth	Antenna	
Key to Results			
 = Complied  = Did not comply			

2.3. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Description:	Body Worn Tracking Device
Brand Name:	BlueTag
Model Name or Number:	V5
Serial Number:	02-40030
IMEI Number:	352023007665876
Hardware Version Number:	BB11_EE58
Software Version Number:	5_100
FCC ID Number:	S5E0906BT5

Description:	AC Charger for BlueTag
Brand Name:	BlueTag Charger
Model Name or Number:	CUI INC
Serial Number:	None Stated

3.2. Description of EUT

The equipment under test was an ankle worn GSM/GPRS/GPS tracker fitted with an inductive transmitter and a 915 MHz transmitter. This report covers the Inductive Transmitter parts only.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Tested Technology:	Inductive Transmitter
Channel Spacing:	Single Channel
Transmit Frequency:	130 kHz
Power Supply Requirement:	3.7 V Nominal via internal battery

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

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

- Continuous transmit at maximum output power.

4.2. Configuration and Peripherals

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

- For all tests, the EUT was tested with the AC charger cradle connected as this was found to be the worst case configuration.

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 AC Conducted Spurious Emissions****Test Summary:**

FCC Part:	15.207
Test Method Used:	As detailed in ANSI C63.4 Section 7 and relevant annexes

Environmental Conditions:

Temperature Range (°C):	26
Relative Humidity Range (%):	34

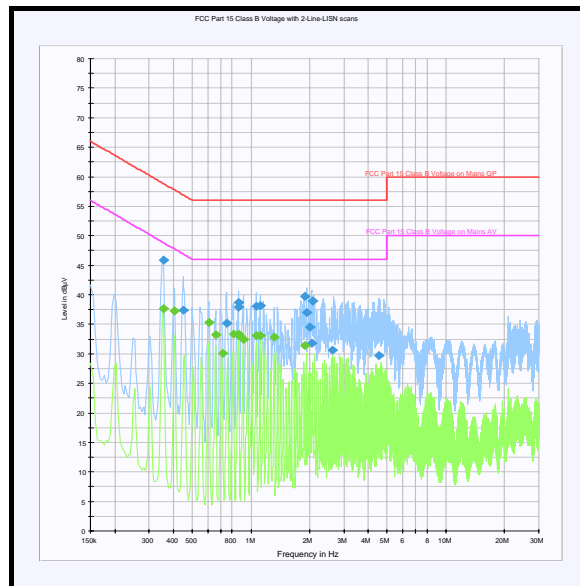
Results: Quasi Peak Detector Measurements

Frequency (MHz)	Line	Quasi Peak Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.357000	Neutral	45.9	58.8	12.9	Complied
0.451500	Live 1	37.3	56.8	19.5	Complied
0.753000	Live 1	35.2	56.0	20.8	Complied
0.861000	Neutral	38.6	56.0	17.4	Complied
0.865500	Neutral	38.0	56.0	18.0	Complied
1.063500	Neutral	38.1	56.0	17.9	Complied
1.117500	Neutral	38.1	56.0	17.9	Complied
1.878000	Neutral	39.7	56.0	16.3	Complied
1.927500	Neutral	37.0	56.0	19.0	Complied
2.008500	Live 1	34.5	56.0	21.5	Complied
2.058000	Live 1	31.8	56.0	24.2	Complied
2.080500	Neutral	38.9	56.0	17.1	Complied
2.611500	Live 1	30.6	56.0	25.4	Complied
4.519500	Live 1	29.7	56.0	26.3	Complied

Transmitter AC Conducted Spurious Emissions (continued)**Results: Average Detector Measurements**

Frequency (MHz)	Line	Average Level (dBμV)	Limit (dBμV)	Margin (dB)	Result
0.357000	Neutral	37.7	48.8	11.1	Complied
0.406500	Neutral	37.3	47.7	10.4	Complied
0.609000	Neutral	35.3	46.0	10.7	Complied
0.658500	Neutral	33.2	46.0	12.8	Complied
0.712500	Neutral	30.1	46.0	15.9	Complied
0.811500	Neutral	33.3	46.0	12.7	Complied
0.861000	Neutral	33.3	46.0	12.7	Complied
0.865500	Neutral	33.2	46.0	12.8	Complied
0.915000	Neutral	32.4	46.0	13.6	Complied
1.068000	Neutral	33.1	46.0	12.9	Complied
1.117500	Neutral	33.1	46.0	12.9	Complied
1.320000	Neutral	32.8	46.0	13.2	Complied
1.878000	Neutral	31.4	46.0	14.6	Complied

Transmitter AC Conducted Spurious Emissions (continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

5.2.2. Transmitter Fundamental Field Strength**Test Summary:**

FCC Part:	FCC 15.215 and 15.209
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes

Environmental Conditions:

Temperature Range (°C):	26
Relative Humidity Range (%):	33

Results:

Frequency (MHz)	Antenna Polarity	Q-P Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
0.130513	0° from EUT	-15.1	18.5 (at 300m)	33.6	Complied

5.2.3. Transmitter Radiated Spurious Emissions**Test Summary:**

FCC Part:	15.209
Test Method Used:	As detailed in ANSI C63.4 Section 8 and relevant annexes
Frequency Range:	30 MHz to 1000 MHz

Environmental Conditions:

Temperature Range (°C):	26
Relative Humidity Range (%):	33

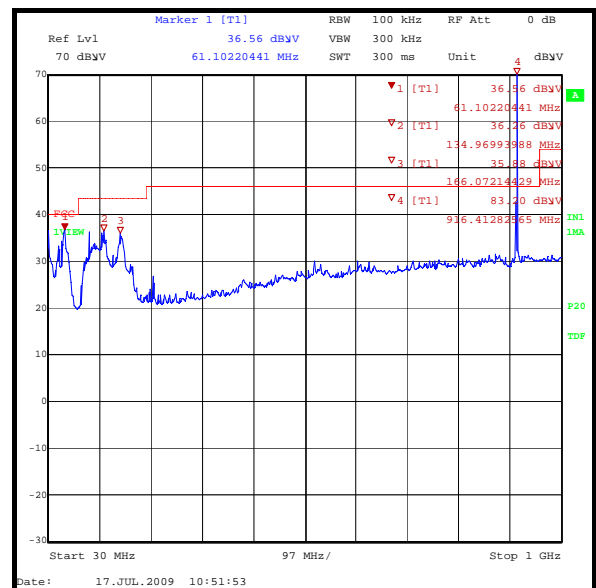
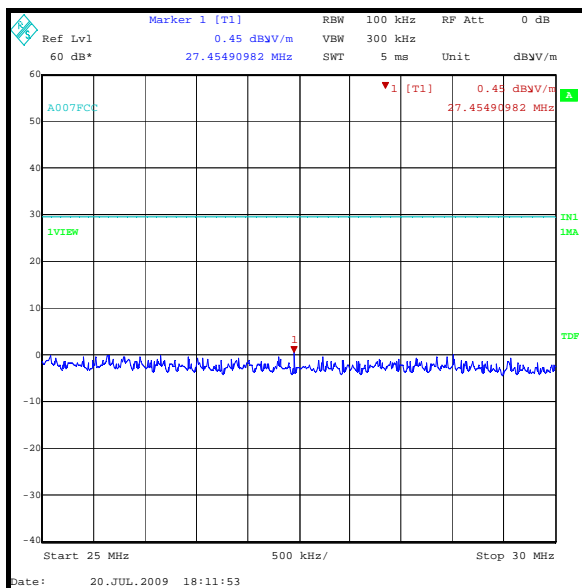
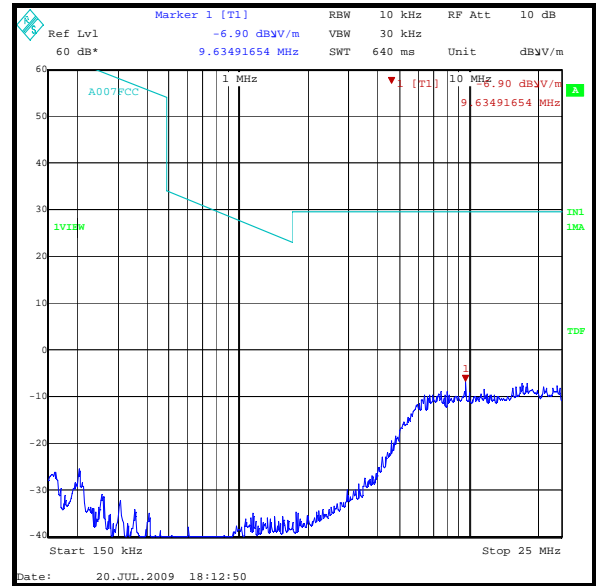
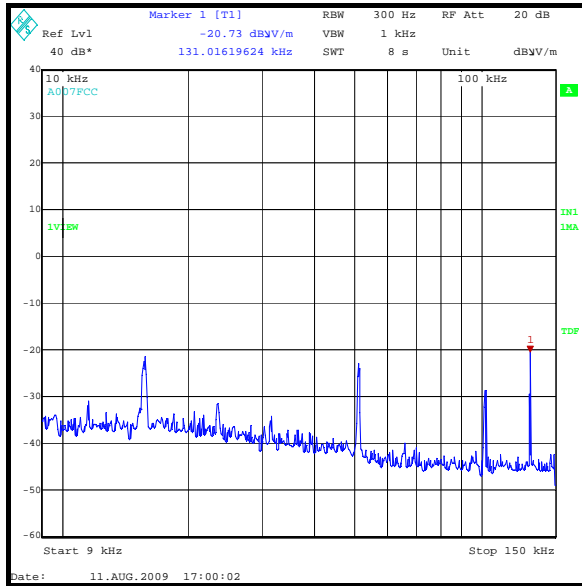
Results:

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
60.746575	Vertical	32.2	40.0 (at 3m)	7.8	Complied
134.370742	Vertical	29.3	43.0 (at 3m)	13.7	Complied
165.759319	Vertical	27.3	43.0 (at 3m)	15.7	Complied

Note(s):

- Limits below 30 MHz are specified at test distance of 30 metres, whilst below 0.49 MHz they are specified at a test distance of 300 metres. However as specified by section 15.31 (f)(2), measurements may be performed at a closer distance, and the measured level corrected to the specified measurement distance by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
- The measurement distance was 3 metres for all emissions in the range 9 kHz to 30 MHz in addition to 3 metres for the range 30 MHz to 1000 MHz. The limits below 30 MHz were extrapolated to the 3 metre test distance.
- A transducer factor on the test equipment was used to extrapolate the result obtained at 3 metres to the required measurement distance.
- It is not possible to disable the 915MHz transmitter, therefore its carrier frequency is shown on the 30 MHz to 1 GHz plot.

Transmitter Radiated Spurious Emissions (continued)



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying table.

5.2.4. Transmitter 20 dB Bandwidth

FCC Part:	15.215
Test Method Used:	As detailed in ANSI C63.4 Section 13.1.7 and relevant annexes (see note below)

Environmental Conditions:

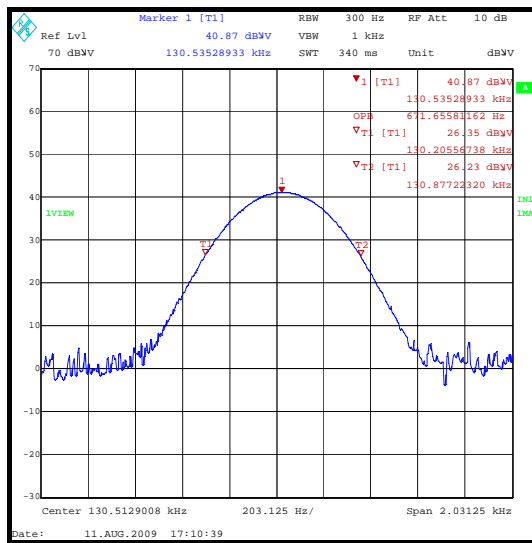
Temperature (°C):	26
Relative Humidity (%):	33

Results:

Transmitter 20 dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Result
0.671	375	374.329	Complied

Note(s):

1. In lieu of the test method detailed in ANSI C63.4 Section 13.1.7 the 20 dB bandwidth was measured using the Occupied Bandwidth function of the spectrum analyser.
2. There is no allocated band and therefore the nearest band edge frequencies of 110 kHz and 495 kHz were used to determine the limit as intentionally transmitting within a restricted band is not allowed.



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
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±3.72 dB
Transmitter Fundamental Field Strength	30 MHz to 1000 MHz	95%	±4.64 dB
Radiated Spurious Emissions	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)
A007	Antenna	Rohde & Schwarz	HFH2-Z2	880 458/020	29 Mar 2009	12
A008	Tripod	Rohde & Schwarz	HFU-Z	None	Calibration not required	-
A1299	Antenna	Schaffner	CBL6143	5094	28 Jul 2008	12
A1534	Pre Amplifier	Hewlett Packard	8449B OPT H02	3008A00405	Calibrated before use	-
A1818	Antenna	EMCO	3115	00075692	25 Oct 2008	12
A1830	Pulse Limiter	Rhode & Schwarz	ESH3-Z2	100668	05 Jan 2009	12
A649	Single Phase LISN	Rohde & Schwarz	ESH3-Z5	825562/008	19 Mar 2009	12
C363	Cable	Rosenberger	RG142	None	29 Mar 2009	12
K0001	Site Reference 4420	Rainford EMC	N/A	N/A	04 May 2009	12
K0002	Site Reference 4421	Rainford EMC	N/A	N/A	13 Aug 2008	12
K0008	Site Reference 4422	RFI Global Services Ltd	N/A	N/A	Calibration not required	-
M1124	Spectrum Analyser	Rohde & Schwarz	ESIB26	100046K	09 Mar 2009	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	22 Apr 2009	12
M1273	Test Receiver	Rhode & Schwarz	ESIB 26	100275	01 Apr 2009	12

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